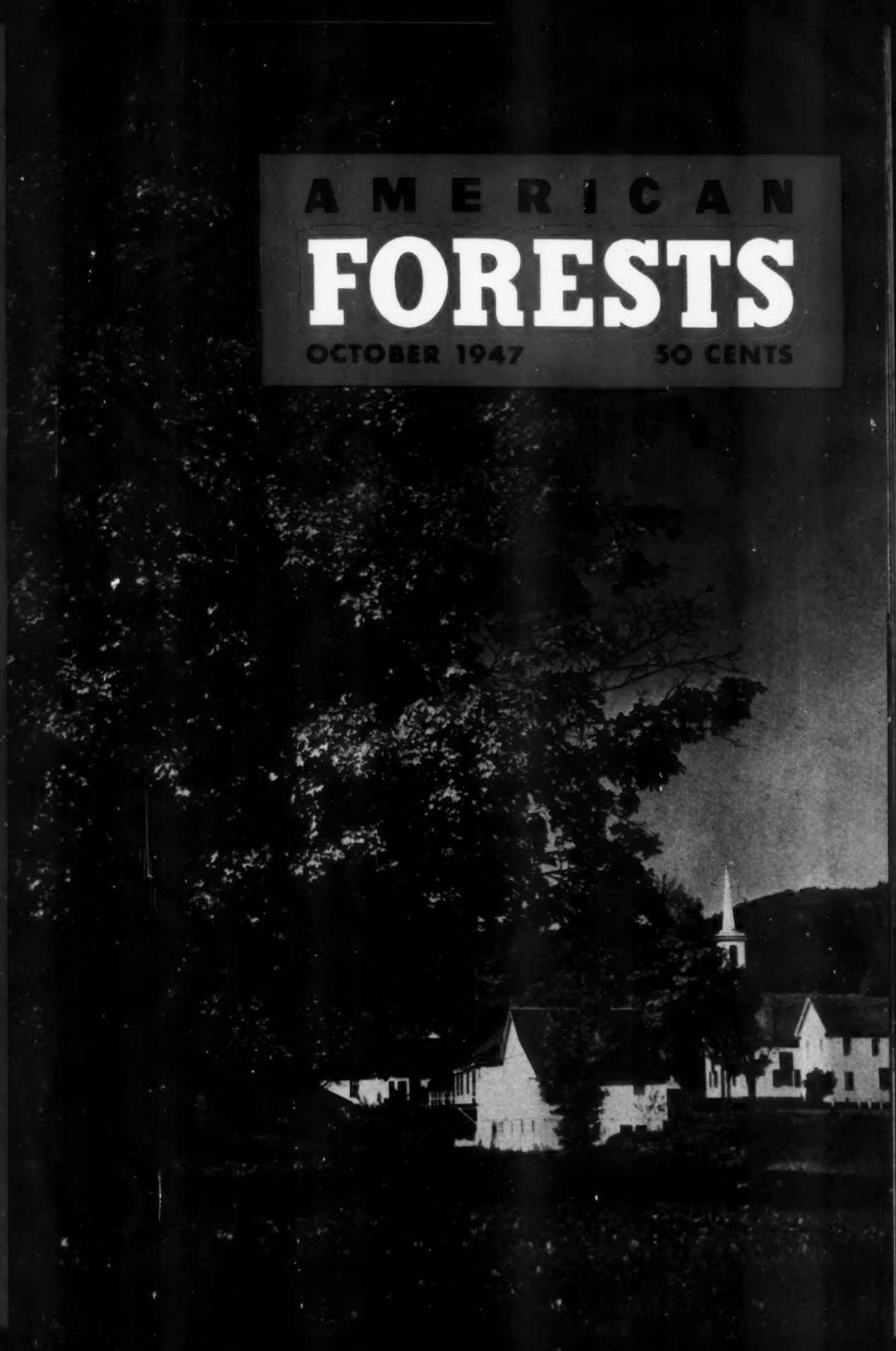
AMERICAN FORESTS

OCTOBER 1947 50 CENTS



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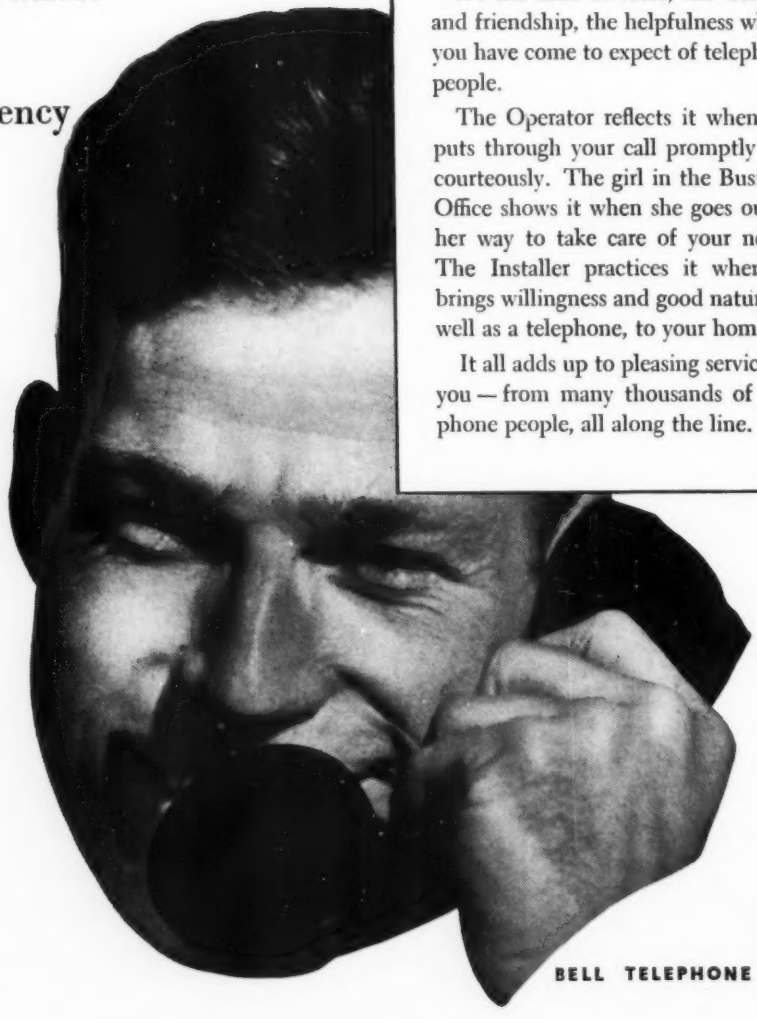

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AMERICAN FORESTS

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"Autumn in New England"
Photograph by John Kabel

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The American Forestry Association is a national organization—educational in character—for the advancement of the intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is (1) to bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; (2) to make available to Americans in all walks of life a wider knowledge and appreciation of their forest resources and the part they can play in the social and industrial life of our nation.

The History MORE THAN half a century ago American men and women of vision, stirred by the rapid destruction of forests and forest life in the United States, began to raise their voices in behalf of conservation. Foreseeing the danger of allowing America's rich forests and vast natural wealth to be thoughtlessly wasted, these public-spirited individuals protested the needless destruction that was taking place. Out of their efforts came a collective force—The American Forestry Association, first organized in 1875 and made a national influence in 1882.

The Record THUS The American Forestry Association has a long record of efficient public service. The establishment of the United States Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its educational work, extending over more than seventy years, has stimulated public action and built public support for protection against forest fires and floods; for prevention and control of soil erosion; for the development of conservation policies in forest management for continuous production through wise use; for the control of forest insects and diseases and the preservation of fish and wildlife.

The Support FROM AN ORGANIZATION of a few hundred members three decades ago, the Association has attained a substantial membership of many thousand men and women, living in every state in the Union and in foreign countries throughout the world. The funds of the Association are administered by a Board of Directors composed of individuals of national standing—men and women who give their services free, who have a practical understanding of the nation's present-day conservation needs, and are equipped through experience, ability, enthusiasm and training to advance the Association's program.

The Program BECAUSE OF its independent, non-political character, the work of The American Forestry Association is vitally necessary in the field of public service. It provides an unprejudiced influence for the development of sound conservation measures. It helps coordinate public, state and federal policies. It cooperates closely with federal, state and private agencies in conservation work. At the same time it initiates, sponsors and carries on needed projects in conservation in addition to its regular broad continuous program of education.

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A Letter to the Editor

PUBLIC LAND HEARINGS CALLED PREJUDICED AND UNDEMOCRATIC

SIR: The national forests and all other public lands in the West are facing the greatest danger that has ever beset them. A congressional subcommittee is now visiting all western districts in an open attempt to discredit the Forest Service and reduce it to a point where it will become as ineffectual as the Grazing Service, which now has but one man to supervise each two million acres.

This new threat is actually more insidious than the one to transfer public lands, including national forests, to private ownership. Having failed in their initial attempt at private acquirement of federal lands, western stockmen are now trying to gain even greater personal use of the ranges, from the mountain tops to the deserts, through hamstringing the Forest Service, the already grievously weakened Grazing Service and all other land managing agencies by means of a concerted drive for budget reduction.

This new strategy is powerfully organized, and it must be combatted accordingly. It is an effort, on a grand scale, to intimidate personnel responsible for the conservation of watershed areas that serve millions of our citizens; enormous grazing regions; forests that are *national*, and other public properties of untold value to all who use our resources or desire their protection for generations to come. It is an attempt to nullify scientific conservation practices and policies gained through the past half century. As for wildlife, there are only complaints about its prevalence!

Among other objectives, this subcommittee of the House Public Lands Committee is attempting to secure legal status and authority for stockmen "advisory" boards that will govern the use of national forests by livestock interests. The result would be to make all but impossible future reductions in the number of cattle overgrazing any given area. This is an important phase of the line of attack. The Forest Service considers reductions to be absolutely essential to stop fundamental land damage that is only too evident on every hand. The vital soil of the West is going down the rivers in ever-increasing amounts, largely as a result of tragic overgrazing.

Excessive grazing has injured the hills, mountains and plains far more than all other causes combined including fire, and this fact is only too apparent to those who can "read the land."

Last week, I attended one of these congressional hearings at Grand Junction, Colorado. The proceedings were the most undemocratic of any I have ever heard. The chairman of this six-man subcommittee, Representative Frank A. Barrett of Wyoming, is himself interested in the cattle business. The acting chairman for the afternoon session, Representative Robert F. Rockwell of Colorado, has cattle grazing on national forest lands.

From the very opening remarks at 9 A.M. until 11:30 P.M., Representative Barrett did all that he could to undermine the authority of the Forest Service, to belittle the scientific work that has been accomplished by some of the leading experts in our country, to discredit its employees from the chief of the Forest Service, Lyle F. Watts, down to the supervisors and rangers. Mr. Watts at one point was given 15 minutes to "defend himself" against eight hours of vicious criticism, with preceding remarks by the chairman that were as prejudiced as one could imagine. It was a sad spectacle to see a valuable public servant of Mr. Watts' caliber find it necessary to speak as he had to speak, in order to strengthen the morale of his men, before a group of antagonistic people who are, and always have been, responsible for the destruction of our ranges and forests. The entire affair was an insult to the intelligence of every thinking person present.

The enclosed editorial (reprinted in box on this page) from the Grand Junction *Daily Sentinel* expresses the local resentment concerning this meeting. There are to be many other meetings in other states, with the last one in Phoenix, Arizona, on November 1.

The committee is moving through Utah to the Northwest and then down through California where seven hearings will be held to "investigate" the Forest Service, the Park Service and public land control in general. In many instances, the meetings will be "packed" by the livestock interests, as was the one here at Grand Junction where the abusive chairman at one point said, "We all know that the Forest Service is *only* interested in kicking *all of us* off *our* land."

In this connection, local conservation groups found it practically impossible to give their viewpoints. One of these gentlemen, the director of the

(*Turn to page* 474)

NOT IN THE AMERICAN TRADITION

Not infrequently in recent months members of Congress, including the representative from Colorado's fourth congressional district, have complained that efforts have been made to denude the lower house of its prestige.

If all house committee investigations are carried on in the same manner as was the public lands hearing held in our city last Friday, congressmen, on self-examination, would discover that they themselves are most responsible for any loss of prestige their body may be suffering.

The general public had labored under the impression that congressional hearings were for the purpose of establishing facts and hearing testimony from all sides involved in a controversy worthy of congressional consideration. But the total lack of dignity and of fairness that characterized this hearing to establish facts in the stockmen-Forest Service controversy disillusioned any neutral observer as to the real purpose of this hearing as staged in Grand Junction.

God forbid that "the American way," of which we all boast, shall ever be judged by such biased procedures as characterized this hearing that was made before a board weighted in favor of one side; and presided over by a chairman, also a party to the controversy, and who, in effect, became a prosecutor, missing no opportunity to denounce the other party in the dispute, who was given limited opportunity to present its case.—*Editorial in the Grand Junction, Colorado,* The Daily Sentinel, *for September 8.*

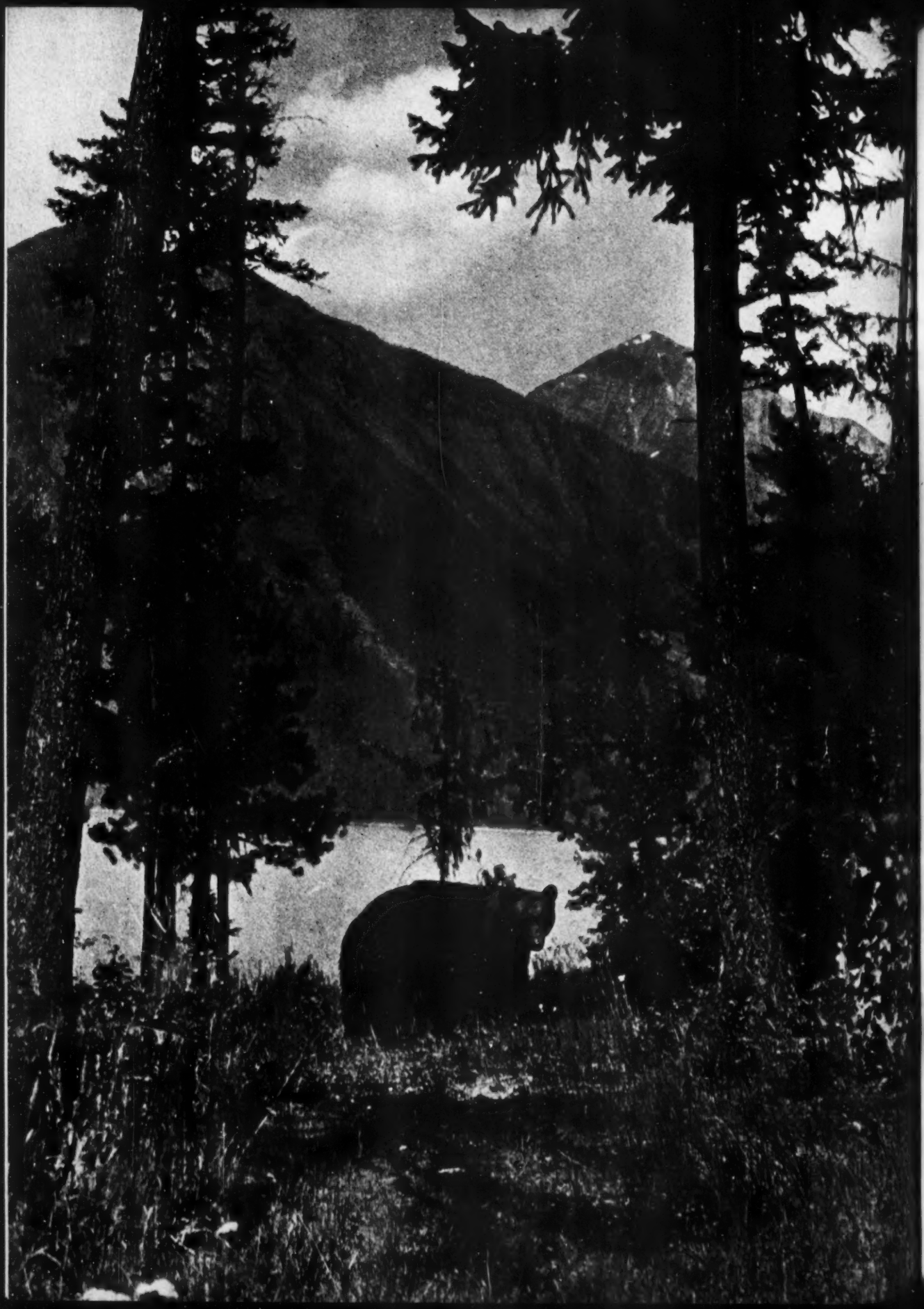
My Favorite Tree

By **JOHN W. BRICKER**
United States Senator from Ohio

H. A. Woods

To me the most beautiful of American trees is the bur oak. It is strong, sturdy, and large. It has beautiful foliage, grows in fertile soil and is typical of the country where I was born and grew up.

(EDITOR'S NOTE: The great oak illustrated above was generally accepted until its death last year as the largest bur oak in the world. It stood in what was locally known as the Berkey woods near Warsaw, Kosciusko County, Indiana. Seven and a half feet in diameter, twenty-three feet, eight inches in circumference four feet above the ground, the magnificent trunk thrust skyward sixty-one feet to the first limb.)



Editorial

Congressional Backfire

Forest fires have backfired with tragic vengeance on the Congress of the United States. Members of that body have cause for red faces which may become redder when the whole story unrolls to the American people. Reddest of all should be the members of the House Appropriations Committee which on April 21 cut off all funds for control of forest fires on 220 thousand acres of public domain lands in Alaska. Said the committee:

"The estimate of $170,000 for Alaska fire control and suppression work has been disallowed, it being the opinion of the committee that such fire protection is not justified and that the saving which might result from such protection does not warrant the expenditure involved."

Less than a month and a half later, the 49th star, as Alaskans hopefully call the last North American frontier, was ablaze. During June and July one fire alone on Kenai Peninsula, —renowned for its wildlife resources —burned over 400 thousand acres. As this issue goes to press, a total of 123 fires was reported to have burned over 1,100,000 Alaskan acres so far this year. Damage figures in terms of value of timber and wildlife resources destroyed, disturbance or pollution of water necessary for mining, farm crops and the highly important salmon industry are not yet available. But it is safe to assume that direct and indirect losses will exceed 100 times the $170,000 asked by the Bureau of the Budget for maintaining a minimum staff of fire control personnel.

This lack of understanding and alertness on the part of Congress to the need of protecting the nation's last backlog of natural resources is a matter of concern to everyone. Alaska has been looked upon as a cold, wet, desolate area, sparsely populated, ill-vegetated and of little value except for mining and background for adventure stories. What is not realized is that "Seward's Folly" is a vast area of resources and economic possibilities of vital importance to national economy and defense.

The casual observer, flying over Alaska, will see mile after mile of stunted trees that appear not to warrant the expenditure involved for their protection. What he often fails to see is the excellent timber stands on the islands which have had natural protection from fire, and the thrifty young growth in many areas. He fails to realize that one mining enterprise, for example, had to construct a million-dollar dam to assure sustained water flow after a fire had devastated the watershed upon which it had been dependent—or that the taxpayers supported the dam through an RFC loan. He does not know that one trapping outfit considers another fire responsible for a $10,000 annual loss in fur output or that thousands of ducks and geese were lost in one fire on the Alaska peninsula. Many such examples can be cited.

In Alaska we see a repetition of the conservation history of the United States—the history of entering, destroying and moving on, only to come back later to try to rebuild what was destroyed. The federal and state governments, private industry and the consumer are now paying for rebuilding the resources of the 48 states at a price far in excess of what might have been the cost of conservation measures in the first place.

At best, the budget request of $170,000 for Alaska was far below the cost of adequate protection. The unreserved, unappropriated lands in that territory comprise 40 million acres of commercial forests, 80 million acres of woodlands and 100 million acres of open range and tundra —220 million acres of land requiring fire protection — more than the national forests of the United States and Alaska. Yet, under the modest Alaskan Fire Control Service funds, it was possible on one district to have only one ranger and five fire guards assigned to protect an area as large as the state of Minnesota.

When news of the House action reached Alaska, the service had no choice but to make drastic reductions in personnel so that it might complete the 1947 fiscal year within its budget. By June 25, the skeleton fire force normally assigned was practically non-existent. In many areas there was no one in authority to call upon the Army and other cooperators to help fight fires or to render supervising assistance.

The Alaskan Fire Control Service of the Bureau of Land Management, Department of Interior, was inaugurated in 1940 in response to local demand. That year the fire loss was 4,500,000 acres. By 1945, the figure had been reduced to 117,313 acres. The service continued to grow in importance and effect. Thus the $170,000 request for fiscal year 1948 was considered extremely modest in view of mounting costs of operation and greatly increased hazards. This was on the basis of around one-tenth cent an acre—less than one percent of the cost of protecting similar lands in northern and western continental United States. With millions of dollars spent for defense and preparedness in Alaska and in view of the tremendous resource values involved, the people of the United States surely are ready and willing to give some fire protection to that great territory. But the Congress said, "No!"

Alaska has started on a postwar boom period. The opening up to settlement of areas along the Alaska Highway, the growing number of settlers and tourists arriving by automobile, boat and airplane, the eagerness of returned soldiers to carve out a future in the last American frontier make imperative a sound policy of resource management. So far as the wildland resource is concerned, the first action program under such a policy should be for the protection of the resource from fire. Otherwise, we can expect to be paying the fire bills — at tremendous interest — for generations to come.

The recent fires in Alaska serve to dramatize the need for prompt action. They set the stage upon which the Bureau of Land Management can prepare an overall fire prevention and control plan for the territory. Experience and knowledge in fire control are not lacking. With the recent fire season as an example of what can happen, the Department of the Interior should be able to show immediate as well as long-range returns from any reasonable expenditure. The Congress should look upon the implementation of such a plan for Alaska as a federal responsibility comparable to that on public lands within the 48 states.

"Well!"—Study of Black Bear by Lloyd R. Koenig

Life to Idaho's tussock moths was just one air raid alarm after another when forestry's air arm struck this summer at 400,000 infested acres with DDT and fuel oil—the biggest aerial spraying job ever attempted

"OPERATION FLIT GUN"

By LEO V. BODINE

It began in 1944—not the spraying, but the cause of spraying. A few rather splendid looking little green caterpillars, larvae of the tussock moth, their backs adorned with tufts of brightly colored plumage, got out of hand in the Clearwater and St. Joe national forests of Idaho, and vented their appetites on acre after acre of good fir timber.

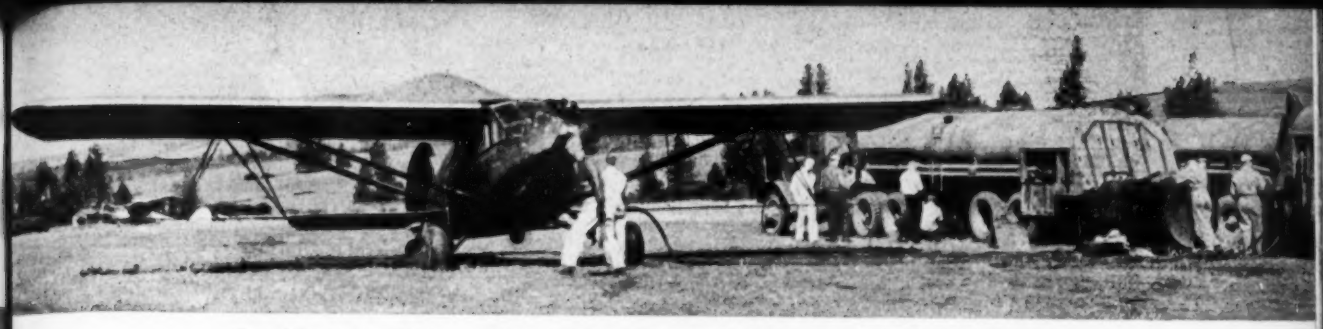
The end came in 1947 with an aerially administered bath of fuel oil and DDT, fogged out in a thin, even mist by low flying planes that literally clipped the treetops across the breadth of an infested 400 thousand acres of Idaho forest.

Sandwiched between beginning and end were more than a few anxious moments, months of planning and making ready for the spraying job, and a cooperative treatment worth noting of a mutual problem by private, state and federal ownerships.

At the start it was Jim Evenden, senior entomologist, U. S. Bureau of Entomology and Plant Quarantine, of Coeur d' Alene, Idaho, who did all the talking. And, it should be written of Entomologist Evenden that the title "senior" has reference to experience and knowledge and no wise to energy. To the tussock moth he was a sort of Carrie A. Nation at her fervent best with a flit gun in either fist.

Said Evenden at a meeting of the North Idaho Forestry Association many months in advance of the decision to spray—"These little green devils are eating up your fir, gentlemen, and when they run out of fir they'll move into your white pine and feast on that. Something has happened to the parasites which normally prey on the caterpillars of the tussock moth. The infestation has increased by several hundred percent in the past year and in 1947 will likely show an even greater rate of increase.

"Emergency action is necessary. Aerial spraying with DDT might possibly do the job, but no one can predict with certainty that the results will be satisfactory. However, it can



Loading up with from 70 to 200 gallons of lethal spray, small planes took off on dawn missions, to wage all out chemical warfare against the invaders

be promised and with certainty that unless the tussock moth epidemic is brought under control, the results are going to be plain damn bad."

There was early agreement as to the truth of Entomologist Evenden's terse summarization and further agreement that spraying should be attempted, to be administered by the U. S. Forest Service with benefit of counsel from the Bureau of Entomology.

At this juncture finance reared its ugly head, demanding satisfaction. Not much exertion in the way of mental gymnastics was necessary for the principals to conclude the spraying of 400 thousand acres of trees would run a bit to the costly side. The estimate of expense was $700,000. On the other hand, if allowed to rage along unchecked until natural enemies reappeared, the tussock moth might wreak a damage of $47,000,000. When the two figures were considered alongside each other the cost of spraying paled in degree of significance until contemplation of its size brought only a comparatively mild case of the jitters.

First to lay their money on the line were the big timber owners. Their simple "Here's our jack," spoken from the depths of a perspective made sharp by years of forest harvesting and a keen appreciation of forest values, was good and potent medicine for those who had then to win state and federal sanction.

To the Idaho legislature, meeting in January and February of '47, State Forester Stanton Ready explained—"Every person who has studied history knows what is meant by a balance of power and is acquainted with what happens when the balance of power has been upset.

"That is what has happened in the insect world which lives in some 400 thousand acres of Idaho forests. It is the reason why the tussock moth has suddenly made headlines. The parasite insects which normally prey on the moth and hold it in check have disappeared, at least in large part, and the result has been a fast multiplying infestation that now menaces great values in timberlands of which the state owns a very important part. Corrective action is necessary."

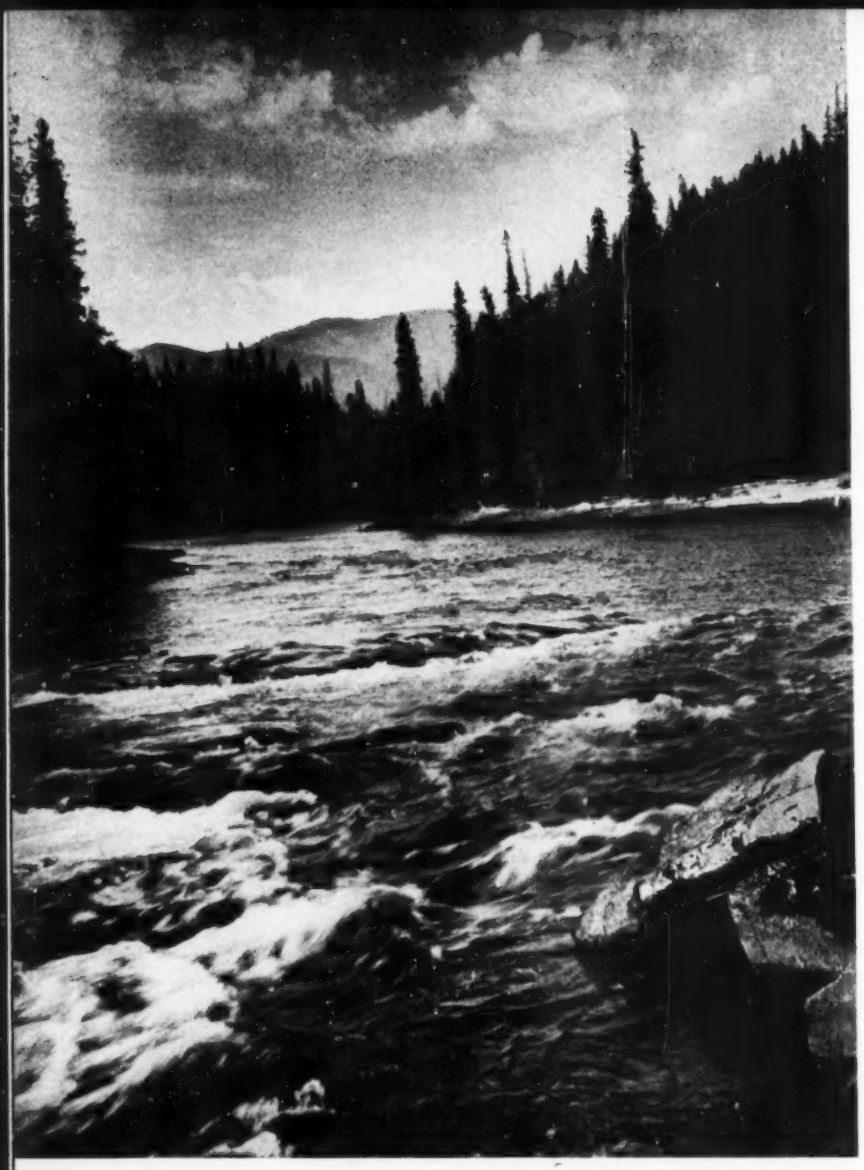
The Idaho Cooperative Board of Forestry heard the same story. So did Idaho's governor, who signed the appropriating measure in early March, after it passed the legislature without a dissenting vote.

Then began the Period-of-the-Long-Wait, or so it seemed, for the green light from Washington, D. C., where Idaho's freshman Congressman, Abe McGregor Goff, had earlier sponsored a bill to authorize federal participation in the project and did yeoman service in urging its passage.

Back in Idaho, meantime, much thought was given to physical preparation for the spraying project should Congress authorize the expenditure . . . puckered brows drew a bit tighter in frowning study of the high-ball job of spreading 1,400 tons of DDT solution over 400 thousand acres of rough forest country within a 30-day period. From 12 to 20 planes and five or six air strips would be needed. Pilots would have to be selected and trained. The area must be aerially photographed and blocked out so pilots could pin-point their runs and avoid either duplication of coverage or failure to cover. A central mixing plant to mix DDT and oil, power operated and with steam heating facilities to turn out 17,500 gallons of spray daily, must be set up. Large semi-tank trailers must be obtained to carry spray from railroad tank cars to point of use at the air strips. A weather station with personnel capable of accurately forecasting weather must be arranged. Radio communications between units must be planned and headquarters established.

Time was fast running out. The job could be done successfully only in May and early June. There was finger nail chewing and some expressions which bordered on the downright disrespectful of a slow moving Congress. Finally, on May 2 came a go-ahead telegram from the nation's capital. A contract was immediately signed for application of spray with the low bidders—co-contractors Johnson Flying Service of Missoula, Montana, and Central Aircraft of Yakima, Washington. Another contract was let to cover purchase of spray materials. Preparation was feverish and fast under direction

Field crews worked beneath the planes, placing small glass plates to catch spray pattern and test accuracy of coverage



Fir along the North Fork of the Clearwater River—typical of the valuable timber stands that were imperiled by the tussock moth

of Paul Roberts, assistant regional forester from Missoula, Montana, but for all the speed there was an eye to economy and organizational detail that later paid off.

Ten big tank trailers and five truck tractors, property of the U. S. Army Air Force, normally used to transport gasoline, were obtained on loan from Geiger Field, Spokane, Washington, to carry mixed spray from rail sidings in Moscow to the airfields from which Johnson and Central operated. Eight of the trailers carried 4,000 gallons each, the other two had a capacity of 2,000 gallons each.

The large planes to be used over the less rough areas lacked equipment to atomize the DDT-fuel oil mixture. Apparatus was developed by engineers and mechanics and demonstrated for the approval of the entomologists.

Headquarters were set up in Pine Hall on the University of Idaho campus where there was sufficient space for all offices, the weather bureau, radio station and sleeping quarters for administrative personnel.

Two teletypes were wired into the office of the weather bureau at Pine Hall to bring information from every section of western United States, Canada, Mexico and ships in the Pacific Ocean to three veteran meteorologists detailed to the project by the U. S. Weather Bureau. In charge of weather prognosticating was Ralph Hanna, under whose direction weather maps were drafted every six hours.

Radio Operator Larry Wilkinson, his station established, saw duty at strange hours. His day began at 2:10 a.m. with receipt of weather reports, continued with few breaks and time only for catnaps until around 8 p.m. Two short-wave transmitters were used and were kept constantly tuned to eight smaller sets at airfields and weather observation posts.

Detailed to determine effects of spray on game birds and food organisms on which they feed was Mitchell G. Hanavan, biologist from the Division of Fishery Biology, Seattle, Washington. Lowell Adams, biologist from Missoula, was on hand to study effects upon fish and the organisms on which they feed.

Preliminaries completed, the big show got underway at 3:30 a.m. of a cold May morning (the 22nd) from the Moscow-Pullman Airport and a temporary field at Laird Park, about 15 miles out of Potlatch, Idaho.

There was no mishap the first day, or later, at Moscow-Pullman where Johnson Flying Service worked two tri-motored, pot-bellied Fords and a big two-motored Douglas cargo ship. The Fords took on 800 gallons of spray at a single gulp, the Douglas carried away an even 1,000 gallons a trip. Fords and Douglas discharged their loads in less than 10 minutes of actual spraying time. The Ford planes laid a swath 300 feet in width, the Douglas planes 400 feet. The Fords in particular were ideal for the job with power to burn, slow speed, and remarkable maneuverability enabling flight at near treetop level.

Central Aircraft, using a variety of small ships whose capacity varied from 70 to 200 gallons a trip and width of spray swath from 100 to 200 feet, likewise had little flight trouble, but were not as fortunate as Johnson. Soft ground at Laird Park neatly flipped a ship over onto its back when trying for a take-off the first morning. Days later a Travelair belly-flopped into a clearing. In neither instance was the pilot seriously injured, but the luck of another Central pilot ran out on a return trip from the home base at Yakima with spare parts. His ship crashed, accounting for the the only death or serious accident in all the days of flying at a blistering pace.

At Tensed, Idaho, the second base of operations for Central Aircraft, some wag chalked the title "Operation Flit Gun" on the side of a small service truck. It was no misnomer, that brief caption for the biggest aerial spraying job ever attempted.

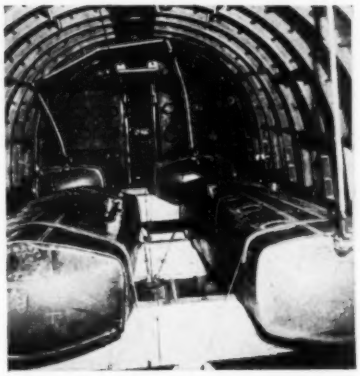
The air was never quiet of the drone of departing and returning planes at Tensed. Stearmans, Trave-

lairs, Stinsons and a Fairchild shuttled in and out in a constant violence of sound and motion. It was like a beehive with ships jockeying into position on one or the other side of a service island of trucks and trailers.

Across the head of the strip returning planes darted in succession, seeking clearance to land, later wobbled down the runway to a takeoff made slow by a heavy load of spray, a pound of DDT to a gallon of fuel oil, lethal medicine to the caterpillar of the tussock moth. Pilots kept careful check on especially prepared maps, marking off sections when sprayed.

Flights began (weather permitting) around four each morning, continued until nine when the wind generally attained velocity exceeding eight miles an hour, and were resumed at four in the afternoon, continuing until dusk. In his capacity as supervisor of the technical side of "Operation Flit Gun," Evenden had to O.K. flight time, flogging himself from the hay at 2 a.m. daily. On a good day the planes sprayed upwards of 20,000 acres.

Working underneath the planes with their whereabouts unknown to the pilots so that no pilot knew exactly when a check was being made of his work, were field crews who laid small glass plates hither and yon about the area to catch the pattern of the spray. Their findings, reported daily, produced a state of high glee among the entomologists . . . coverage, excellent . . . kill, likewise. From Evenden, dubbed "Chief Exterminator" by his



Tanks installed in Douglas planes carried 1,000 gallons of spray

associates, but professing himself to prefer the title "Grand High Exalted Executioner," came an exultant "Praises be!"

The cycle of the tussock moth had been broken. The caterpillars from which the moth emerges in late August simply curled up and died. There would be no spread of the infestation by wind during the summer. (The young caterpillars, when distributed in the treetops, drop down from four to six feet on long silken threads which they spin. An updraft or sudden gust of wind breaks the threads, floating the caterpillars away to other trees and oftentimes carrying them a considerable distance.) There would be no female moth (wingless) to lay eggs, 75 to 125 in a mass, on top of her cocoon and to cover them with a frothy gelatinous secretion embedding therein the hairs from her body.

There was other cheering news for the forest owners as well. A big percentage of the trees stripped of foliage and left standing like bare brown stalks in 1946 were having another try at life. New foliage, little more than a delicate looking tracery alongside a fully needled evergreen, had appeared. More important, early hatches of the caterpillars, evident and feeding on the new foliage had been abruptly halted by the DDT spray. In another year the trees would make it back to near normalcy.

"Operation Flit Gun," by any standard, was an unqualified success. It was completed on time and in time to check extensive damage. The Idaho Land Board, making an inspection of state-owned land in late July, and travelling through the sprayed area, could discover no caterpillars or evidence of their feeding.

No noticeable damage from DDT spray to fish or wildlife has become apparent.

Permanent legislation, sponsored by Idaho's Congressman Goff and South Dakota's Senator Bushfield, to permit fast treatment of such emergencies as that imposed by the tussock moth, has since been enacted by the Congress, signed by the President, and numbered Public Law 110 of the 80th Congress. There may never be another outbreak of like character, but if there is, it can be given immediate attention.

The Idaho Land Board, shown here on the way to the sprayed area, discovered that finding a tussock moth was like looking for a needle in a haystack. Not a caterpillar was found

OCTOBER MOON- AND A COON

John Kabel

By HARRY BOTSFORD

Late in September the first symptons could be noticed. Especially after the first frost! The corn would be in shock, and the long rows would stand like an orderly encampment of wigwams, flanked by the glowing fires simulated by yellow pumpkins. There would be a winey essence in the air, and country air in particular, would be filled with the fragrance of applebutter bubbling in copper kettles and the spicy aroma of catsup being brewed in farm kitchens.

These were great days. But, for a young man, the nights were even better. There was a mystery and a challenge about the nights. Out in the country, you could step out on the back porch and gaze on a world magically transformed by a patina of white frost. You might stand there for a quarter of an hour, listening carefully, before you heard it. Then, there it would be; and the high, keening challenge of a fat coon, foraging in some far off cornfield, would split the silence of the night. That sound sent little shivers up the spine. It's a call I have never heard mechanically duplicated. It has a weird tonal quality, a sort of a banshee sound. Once you have heard it, you will never forget it.

The high keening challenge of a fat coon foraging in some far off cornfield is hard to resist in October — when the corn is in shock and there's a winey essence in the air

This was what we had been waiting for! The next day our plans started to form and coagulate. Frank and Ed and Pete made their contributions. Frank boasted of his two new hound pups and what they would do. Ed's prize hound, Marie, just recovering from motherhood, would be ready, he assured us. Pete promised to have his long-eared hound all primed for the big night. As for me, I had complete confidence in a hybrid hound I owned. Jake was old, infinitely wise and supremely lazy.

We set a date, prayed for good weather and a clear night. There would be a full moon, ideal and highly essential for a coon hunt. Meanwhile, reports piled in about an abundance of raccoons in the local area. We briefed these reports, threw out those that appeared improbable and indefinite. Sifted down, the ideal place for the hunt seemed to be the Skinner farm, located on the fringe of Green Bottom. The area, according to all reports, literally reeked with coons that had fattened on the Skinner corn.

At dusk the clan gathered. There was a nip in the air, sharp and tingling, so we were dressed warmly. Pete brought along his favorite little .22 target rifle. We checked our supplies, found nothing missing, for a change. We used an old Ford truck with an improvised crate on the body for the dogs. They quarreled endlessly as the old vehicle rattled and groaned over the hilly miles of dirt road to where we proposed to start.

We passed the Skinner farm, turned in over an old wood road leading into the heavily wooded Green Bottom sector. In a short distance, we found a small clearing and beyond it stretched a huge cornfield. We built a fire, more as a beacon, because it had not yet turned really cold. The dogs stirred uneasily in the crate, grumbled at the delay. The pups were vastly impatient and made no effort to conceal their feelings. Frank smiled in a very superior manner. "Good blood in these pups," he remarked smugly. "Wait until you see how they will outsmart these other ancient animals. Betcha they tree a coon first!"

There were no takers. After all, the pups were an untried quantity. We sat around, swapped stories, waited for the moon to rise. At last it slid over the big cornfield, round as a dollar, as bright as a newly-minted coin. We waited a little, then put a green log on the fire and started.

The dogs created an immediate uproar. Liberated, they milled in a circle, growling, whining and cavorting. Marie, ever a touchy female, snapped at Pal, the hound that claimed Pete as an owner, and he retreated with a howl. Jake stretched leisurely, snarled a warning as one of the pups rushed toward him.

We whistled the dogs in, walked about a half mile along the rail fence that enclosed the cornfield. Then the dogs were sent out to hunt for Mr. or Mrs. Coon. They disappeared through the woods and into the cornfield like flickering shadows. Within five minutes we heard old Marie's voice, giving tongue. The sound slid through the night and we listened intently, trying to locate the sound and the course. Soon the pups joined in.

Then, for a brief minute, we heard Pal's high tenor. Suddenly we didn't hear Pal.

Pete snorted in disgust. "That old fool, Marie, she's chasin' a rabbit, that's what! My Pal, he's too smart to be fooled by the female."

Soon the excited baying changed to long, doleful yelps. "Treed or grounded!" Frank commented as he

The call of a coon — with its weird tonal quality and banshee-like wail — makes a good coon dog rumble in his throat and give his master that inquiring "What are we waiting for, boss!" look

H. V. Roberts

led the way through the woods, stumbling over a hidden log. We tagged along. When we caught up with the dogs, Pete's suspicions were confirmed. The two pups and old Marie were proudly sniffing and actively scratching at a rabbit hole. Frank and Ed dragged them away, protesting bitterly. Firmly, they tried to explain to the dogs that we were after coon, not rabbit. Jake and Pal were unaccounted for, but I knew they were really on the prowl, and that we'd hear from them sooner or later.

Fifty yards from the rail fence the two pups broke loose, plunged into the edge of the field of corn. They gave immediate tongue and their tones were sharp and imperative. We froze, heard one of them whine in sudden pain.

"They got them a coon!" Frank yelled. "One of them just got nipped. Let's go!"

As we hastily neared the conflict, the growling, whining and snarling, we suddenly realized that it was not a coon the pups had cornered. The air was redolent . . . Frank sadly and profanely gathered in the pups. A beautiful black and white skunk walked majestically and unmolested down the aisle formed by the shocks of corn.

Ed started to say something very sarcastic but Frank's pride was saved by a long, electrifying baying far beyond the cornfield, down toward Indian Run. It was Pal's unmistakable voice and it meant business. As we held our noses and waited to locate the sound, we heard Jake's rumbling voice giving confirmation to Pal's find. Marie whined and wheeled away toward the sounds. The pups followed, glad of the opportunity to escape further humiliation.

We listened again; the dogs had not progressed far on the trail, and we set off in their direction, through the cornfield, toward the small creek that wound erratically down the narrow valley.

As we neared the sound of the baying, now augumented by Marie's voice and the shrill voices of the pups, the tumult lessened and took on a puzzled, angry note. We caught up with the dogs, found them milling on the banks of the creek. It was evident what had happened: Pal had trailed the coon to the creek and the rascal had walked or run through the water, destroying his scent, throwing the dogs off the trail. We even found the coon's tracks. And he was a mighty big one, too.

We held a council of war, decided on strategy. Frank was to take the pups down stream to see if the coon had taken to land on the north side of the creek. Pete and Pal would cover the other side of the stream, while Ed and I covered the upstream angles. Whichever direction our quarry took, we should soon be on his trail, if the pups didn't fumble.

It was hard going, but it didn't last very long. I had gone about a quarter of a mile when I heard the pups raising shrill voices, traveling fast. Another skunk? Jake appeared at my side, cocked ragged ears, listened carefully. He growled deeply and happily, ran easily in the direction of the sound. He seemed to find a certain satisfaction in what the pups were saying. As I followed him, I heard Pal and Marie chime in. I laid a course toward the range it seemed the pups were taking. Suddenly their baying stopped. Then their voices emerged, a literal barrage of barks and bellows, frantic and urgent. Then I heard Frank's voice raised in a long triumphant howl. By this time, the other dogs had joined and the racket increased in tempo.

Frank stood under a tall chestnut tree, peering upward and yelling praise at the frantic pups. Ed's electric torch searched the limbs and the hounds hysterically yelped and pranced trying to tell him where to look for the coon. At last the beam halted. There he was, a fat, oversized coon, crouched close to a big limb, high in the tree. His eyes gleamed fiercely and he remained immobile.

We tied the dogs and they were outraged and noisily indignant. Pete produced the little .22 and Ed held the torch steadily on the figure high in the tree. Peter aimed carefully at a point between those two burning eyes. The rifle seemed to roar unusually loud for such a small piece. The dogs were almost insane. The coon didn't move.

"Missed!" Pete growled, starting to reload. Just then the coon rolled lazily from the limb, seemed to hesitate momentarily and then tumbled through the leaves and struck the ground inert, drilled neatly and mercifully between the eyes.

We let the pups investigate. They sniffed the coon and immediately decided that their mission in life was to tear the coon to pieces. They had to be chastened and retreated grumbling. "From now on, here's a pair of Class A hound dogs," Frank proclaimed. This time, all we could do was to agree.

Wearily we retraced our steps, taking turns carrying the coon. He was big and we estimated that he would weigh at least twenty pounds or more. We built up the fire and the heat was more than welcome. It was well past midnight and we were dirty, scratched by bushes and briers, supremely happy and hungry, too!

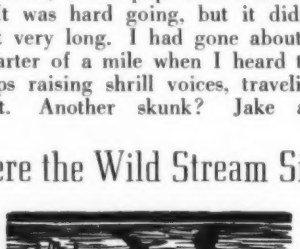
The old, battered coffee pot was put on the fire. Frank fried thick hamburgers, lush with chopped onions. Ed brought out a big basket of buttered bread and condiments. As the food was being cooked, I brought out a small jug of hard cider. It was prime, cold and sparkling like champagne. Good, too!

The dogs lolled in a circle around the warmth of the fire. The older dogs stretched out close beside the tired pups, accepting them into the fraternity by such tolerance.

The coffee was hot and strong. The hamburgers were tender and tasty. Never did a snack taste better. Even the hounds had their share, gulped it gratefully, thumping their tails to prove it.

As we climbed into the old Ford and the motor sputtered into life, we were very happy and content. All this was a long time ago. But I never see an October moon that I don't recall this and similar nights. I wonder if a coon hunt is still as much fun as it used to be!

"Where the Wild Stream Sings"



The only thing for a man I know
Is to get right out of the town and go,
Where the wild ducks swarm and the geese go by
An' the trout an' bass are a-jumpin' high,
An' loaf all day by some laughin' stream
An' fish and whistle, an' sing an' dream,
An' listen to birds, an watch the squirrels,
An' cast a fly where the eddy whirls,
An' forget that there are houses and men,
Forget that he's got to go back again,
Forget when on moss covered bank he's curled
There's anyone else in the whole wide-world
Only him—an' flowers, an' trees an' things
That live out there where the wild stream sings.

By Perc Blogg.

PULP MILLS FOR ALASKA

Vast pulpwood stands on the Tongass National Forest to be opened up to stimulate industrial development of this far northern territory

A TASK of pioneer proportions, entailing the construction of a $30,000,000 pulp mill and the founding and development of new communities in a sprawling, hitherto undeveloped domain, was scheduled to be shouldered October 1 in the office of U. S. Forest Service Chief Lyle F. Watts by the representative of the pulp and paper concern who outbids his competitors for 1,500,000,000 cubic feet of virgin Alaskan pulptimber located in the Petersburg and Thomas Bay area.

The scene in Chief Watts' office will be repeated on December 15 when pulp men assemble to bid on a second 1,500,000,000 cubic foot block of pulptimber located in the Ketchikan area. Both tracts are being offered for sale as a part of the program designed to stimulate Alaskan industrial development authorized by the 80th Congress under the terms of the Tongass National Forest Bill. The proposed sales are to be the first in a series which it is hoped may be made to support the development of new mills and dependent communities in southeast Alaska. Interest in both projects has been reported as keen on the part of pulp and paper manufacturers.

Of the 1,500,000,000 cubic feet of commercial timber in the Petersburg sale area, enough to run a mill with a capacity of 525 tons a day for 50 years, about 75 percent is estimated to be western hemlock, 25 percent Sitka spruce with small quantities of intermixed Alaska and western redcedar. Logs from the area which stretches across the central portion of the Tongass National Forest from near the British Columbia line to Chathan Strait, could be towed to the mills on natural waterways with the climate making a 10-month logging season practicable. The commercial timber is within six or seven miles of navigable tidewater. Suitable plant and town sites on deep water bays with adequate fresh water sources for mill processing and domestic use are available.

The timber in the Petersburg area is reported to be well suited to pulp manufacture and about 15 percent is estimated to be more valuable for lumber, plywood, shingles, or piling — a factor to be considered in the construction of dwellings and buildings when the new project gets underway.

The Ketchikan tract, which was advertised for sale on September 15 by the Forest Service, is 75 percent hemlock with the remaining 25 percent mostly spruce.

The offer of the Tongass timber for pulp manufacture, free and clear of many obstacles which have prevented it in the past, is expected to mark a major advance in the development of Alaska, with important implications for the economic security of the United States. According to the prospectus covering the offer, which includes a detailed description of the timber, the conditions of sale and a complete sample of the sale agreement, the Forest Service, as agent for the United States, is deeply "interested in encouraging and bringing about the industrial development of Alaska" and "wishes to facilitate the establishment of the new industry by the purchaser and its operation on a commercially sound and permanently economical basis" with "due regard for the interests of the United States and for the protection of the natural resources of Alaska."

Outstanding considerations in resource protection stipulated in the agreement are the handling of the timber on a sustained-yield basis, the safeguarding of salmon spawning streams, the preservation of unusually fine scenic areas and the prevention of stream pollution. Further, says the prospectus, the purchaser "proposes to establish a pulp mill, a sawmill, a town site and the development of waterpower with associated facilities in the vicinity."

The lowest bid price that will be considered for the timber, scaled on a cubic foot basis and intended for pulp manufacture before July 1, 1960, is 85 cents a 100 cubic feet. The bidder must also agree to pay certain fixed prices during this period for timber cut for uses other than pulp. In addition, he must agree to a small charge on the timber as cut, this money to be used by the Forest Service for improvement of the future timber stand. The agreement is to run 50 years, subject to such adjustments as necessary to keep it in line with current market and operational conditions.

New towns and new industries may soon spring up along the placid shoreline of the Bay of Pillars — where timber is being offered for sale to pulpwood concerns

Alaska Aerial Service

BOMBING FIRE!

When years ago Howard Flint kicked a beer keg filled with water out of an airplane to test the feasibility of aerial bombing of forest fires, he probably never dreamed that giant Superfortresses and speedy Thunderbolt fighters would some day zoom to the attack with 300-pound water bombs. But that is what happened this summer

By A. G. HALL

A P-47 Thunderbolt getting set for a glide bombing run. It carries two bombs

U. S. Forest Service

More than 15 years ago, Howard Flint, then chief of fire control in the northern region of the U. S. Forest Service, kicked a beer keg full of water out of an airplane flying over Felts Field at Spokane, Washington, to determine the area that would be covered by the splash. Thus was conceived the idea of aerial bombing of forest fires.

Later tests were made with five-gallon cans filled with water and paper bags containing foamite. The target was a 50-foot circle drawn on the ground to simulate the perimeter of a forest fire.

These early tests were none too promising. The experimenters concluded that to be effective the aerial technique would require larger bombs with good ballistics, airplanes with greater carrying capacity and precision bombing equipment. World War II brought about these developments and this summer, on the Lolo National Forest in Montana, the Forest Service and the Army Air Forces renewed cooperative efforts to fight fire with bombs. That success is at last in sight seems certain. For the first time, water bombs have been dropped on a forest fire.

For the experiment, a blaze was set in an area typical of the rugged mountain terrain where bombing from the air may prove valuable in forest fire suppression. Eight water bombs—converted auxiliary fuel tanks of 165 and 310 gallon capacity—were dropped on the head of the fire from a Boeing B-29 Superfortress. As the bombs burst over the fire and scattered their extinguishing load, other planes arrived on the scene to drop smoke-jumpers and equipment to complete the job of controlling the blaze.

Among other planes used experimentally were P-47 Thunderbolt fighters which made glide bombing runs with two 165-gallon tanks.

Other types of bombs were tested for forest fire use. These included 4,000-pound light case bombs; 500-pound experimental chemical bombs and 100-pound chemical bombs, the latter being fused for impact burst, while the others were burst in the air by radio proximity fuses. A B-29 is capable of carrying 184 individual bombs of the 100-pound chemical class.

Results of the test runs have been so successful that the project will be continued on an operational basis on actual fires. The P-47's will operate on fire missions as they are reported to the fire dispatcher's office. Thus, while still experimental, the use of aerial bombing has become at last a part of the regular fire control operations in one section of the country. Actual use under varying conditions of ter-

rain and fuel will help answer some of the unanswered questions, but results to date indicate that the aerial bombing technique will have a definite place in fire control.

It is not anticipated, of course, that aerial bombing will replace conventional fire suppression methods. Rather, it will serve as a supplement to them. Its use is expected to speed up fire control, especially when there are a large number of blazes at the same time in a given area, when conventional attacks on hot-burning fires are ineffective and when inaccessibility by other methods would make fire fighting too dangerous to ground fighters, too costly or too slow.

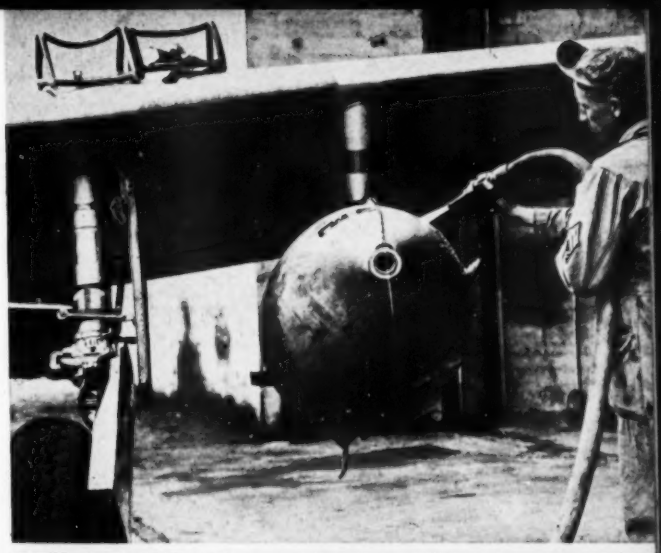
The principle objective in the use of aerial bombing is to knock down and retard the spread of small, hot fires before they can make disastrous runs. This will allow smoke-jumpers or ground forces to move in and put the fires under control. The average fire, if controlled within 24 hours after origin, costs about $700. However, if this fire escapes immediate control it can be expected to spread within the next 24 hours to such size that the cost of control will jump to about $2,800. From then on costs continue to increase completely out of proportion to the time elapsed. These are only average figures. On bad fires under good burning conditions the costs are even greater.

The recent experiment is the outgrowth of initial studies and tests made by the Air Proving Ground Command at Elgin Field, Florida, against small fires on flat topography. For the Montana tests a detachment of the Air Proving Ground was based at the Great Falls Army Air Base under the command of First Lieutenant Charles G. Mathison. Thirty officers and men devoted full time to the field tests in cooperation with Jack S. Barrows, project leader of the Northern Rocky Mountain Forest and Range Experiment Station, and Dr. E. F. Horton of the U. S. Bureau of Standards.

Following the test runs near Missoula, an evaluation board composed of top-notch fire control men in the western regions studied the results. It was upon their recommendation that the Air Forces and the Forest Service decided to put aerial bombing into practice as a regular part of the fire control system for the remainder of this season. Costs still loom large; the evaluation board found it not yet possible for protective agencies to finance the equipment and organization necessary to carry out aerial bombing on an effective scale. It is expected, however, that continued work on actual fires will provide the experience and cost-cutting practices necessary for more extensive use of air attack.

From the military standpoint, the board had this to say: "There are opportunities to develop and test military operations under conditions somewhat similar to combat. This project provides for military participation in a peacetime mission of public value and helps maintain close working relations between military and civilian agencies responsible for various phases of the protection of life and property."

The "Rocky Mountain Ranger," as the big B-29 used in the tests was christened, appears to be well on its way as an important adjunct to fire control work, and "bombs away!" may soon have a peacetime application in the mountains of the West.



These are the "eggs" airmen dropped on the head of the fire—converted auxiliary fuel tanks capable of carrying from 165 to 310 gallons of water. Other tests were made with chemical bombs of from 100 to 500 pounds. Some of the bombs burst on impact—others in the air by means of radio proximity fuses

U. S. Forest Service

OUR DEER MUST BE MANAGED

U. S. Forest Service

By JOHN V. HOENE

THE phone rang on a Friday night late in February. It was Jim, my hunting partner. He wanted me to hunt rabbits near a logging camp in northern Minnesota. After the necessary acquiescence from my dear wife, we agreed to spend two days snowshoeing in quest of the wily phantom of the forest.

Upon arrival in camp we immediately started out for a deep cedar swamp where we knew the snowshoe hare was plentiful. The first thing, Jim remarked about the number of deer tracks at the base of the trees. I mentioned that cedar browse was a favorite winter food. Later we jumped a fawn, so thin and weak it could hardly run. We also noticed a deer yard, empty at the time. All day we had similar experiences that opened our eyes to the way deer live in the winter months.

We were disturbed that evening, and we drove to visit State Forest Ranger Ekbeck in the village of Finland. Hearing our story he said, "that's the trouble with you sportsmen. Most deer hunters get into the woods only two or three days in the early winter when conditions are good. How can they know anything about deer unless they do what you have done today? Yet many of them pose as experts at the sportsmen's meetings and argue endlessly."

Walking back to his desk, he picked up a colorful booklet with a picture of a deer on the cover. The title was, "A History of Wisconsin Deer." Then he observed, "As a ranger I have lived with deer for many years. We have fed them sometimes, watched their habits, and I have shot my share of them during open seasons. Finally this fellow, Ernest Swift, has written a report for the Wisconsin Conser-

The number of deer which the land can sustain depends on the food supply. No deer browse was left here — the result was starvation

Wisconsin Conservation Department

THE AUTHOR, executive secretary of the Timber Producers Association, of Duluth, Minnesota, describes the general deer problem in the northern states as based on his own experience and on the findings of Ernest Swift, assistant director, Wisconsin Conservation Department.

vation Commission that is a dandy. He doesn't go off half-cocked. He really digs into the problems and gives us the answers." It was well after midnight when we left the ranger's house and his remarks were so pertinent I felt determined to share his knowledge with fellow sportsmen.

The ranger showed us how the first few chapters of Swift's book described the original habitat of the deer in Wisconsin and neighboring states. Originally there were very few deer in the heavy forests of the northern states, since the dense virgin growth killed nearly all the underbrush which is so necessary to the deer for winter food. The deer herds were generally on the edge of the hardwood belt where the prairie provided an abundance of grass and hardwood tracts provided shelter. As clearing and logging progressed, followed by many fires, the deer found an abundance of food. They propagated very fast and especially in the past 10 years they have become very numerous.

The book points out that deer food is very limited. There are very few species of trees and shrubs which are edible. As a result, when deer are plentiful, and this is the case in nearly all the northern states, they run short of winter browse and starvation is likely.

Unfortunately, when starvation occurs, it is the younger deer that usually suffer first. The older deer are taller and can stand on their hind legs reaching upward for the lower branches of cedar and other trees. Swift shows pictures of cedar swamps where every twig on the lower part of the tree has been stripped. He also shows dead fawns which were unable to reach as high as the adults and therefore starved to death. The ranger asks the sportsmen to help the conservation departments by being observant when out in the woods, and thus help materially in arriving at an intelligent answer to the management of our deer.

According to Swift, sportsmen interested in deer have only two major things to worry about—too few deer, or too little browse. No one but the farmers, foresters and biologists worry about too many deer. Nearly everyone wants as many deer as possible, if not more. It is the work of deer projects to strive toward the maintenance of a reasonable abundance of deer for the benefit of the public. There is great danger, however, in falsely estimating the carrying capacity of the winter browse. If there ever should be any real doubt as to the ratio of deer to winter browse, it would be far better to risk overshooting than to chance overpopulation, undernourishment, and destructive browsing, because comeback from overshooting can be rapid, but overbrowsing puts the range productivity back for years. At the present time in Wisconsin there is no doubt that the deer range is definitely overpopulated in relation to the needed winter food. The consequent outlook is wasteful starvation and further reduced browse carrying capacity—a penalty the voting sportsmen take upon themselves if they are not well posted on matters of deer conservation.

Key to successful management of white-tailed deer is an abundance of high-quality natural browse for winter diet. The problem is of concern to both foresters and sportsmen

The 1945 survey reports show that:

1—The Wisconsin deer herd has increased beyond its winter food supply, and is beginning to starve during hard winters.

2—The degree of overpopulation varies; not all localities are in critical condition, but critical spots are increasing.

3—Starvation so far kills mainly fawns. Their stomachs are full of food, but not good food.

4—The good winter food plants are being eaten out, are unable to reproduce, and are being replaced by plants of inferior value.

5—Artificial feeding does not relieve the pressure on good food plants.

6—The herd should be reduced to the carrying capacity of the good winter foods.

7—The sooner this is done, the more good food plants will be salvaged and the more deer can be carried in the future.

8—If the herd is not shot down, it will starve down. Further starvation means further depletion of food plants, and this means a very small herd for decades to come.

9—Reducing the herd means reducing antlerless deer.

The Pennsylvania game commission in discussing a similar problem in 1938 said:

With all the food within his reach depleted, this buck reached high for browse, became trapped, and perished miserably

Wisconsin Conservation Department

"Thus, the problem is essentially one concerned with food supplies. More specifically, it is primarily a winter food problem extending from early December to the end of the following March. With only a limited few widely scattered exceptions, there is at present no supply shortage at other seasons of the year, but if current conditions are long allowed to stand uncorrected, a year-round problem may quite conceivably come rapidly into existence.

"The winter problem has been brought about by two principal agents. First, and most important, is the fact that during the past 20 years the greater portion of Pennsylvania's true deer range, comprising approximately eight million acres of mountainous woodlands, has in the natural process of plant succession passed from a brush stage forest into vast unbroken tracts of magnificent sapling trees of various species.

"The undesirable effects of the deer problem upon attempted forest management have proven equal to those suffered by the deer. Difficulties of this type were so severe that widespread concern was evidenced in the early 1920's. Today these difficulties are even more acute and cover far larger areas. The nutritive requirements of an excessive deer herd have in many sections resulted in the complete overthrow of natural forest regeneration and have made forest planting activities impossible.

"Frontz and Clepper have investigated the forest problem in detail. They have found that practically every woody plant, both native and introduced, now common to the forested area of Pennsylvania is at present browsed by deer to a greater or lesser degree. They have pointed out sections where natural forest reproduction has been set back scores of years solely by overbrowsing. They have studied the effects of deer browsing on forest plantations containing from approximately 1,000 to nearly 200,000 trees of numerous species and have found them so serious as to warrant the discontinuance of reforestation on many large areas. They have concluded that sound forest management can be successful in much of Pennsylvania only if the deer herds in those sections be greatly reduced and properly controlled."

Studies in Utah show that artificial feeding causes deer to concentrate in small areas year after year where they cause serious and irreparable damage to native forage species, which in turn further reduces the carrying capacities of the area and makes the deer more dependent on the supplements.

These lead to the conclusions that it is best to regulate the deer population so feeding as a regular program can be discontinued, to base removal more on the conditions of the forage than on censuses, to make removal heavy enough to reduce the population, and to adjust deer population to carrying capacity of the winter range, rather than winter feeding.

Michigan deer experts say, "Winter feeding has not as yet been successful, nor may it ever prove to be a feasible method of holding up declining deer population. The clubs have fed tons of hay, but scarcely any beneficial results have been noticed, and starvation losses continue to be huge.

"Plantings of deer browse species were made in the vicinity of many yards in an attempt to provide additional food. Deer browsed and killed these plants before they had an opportunity to attain sufficient size to produce an appreciable amount of food.

"New plantings for deer browse have proved generally unsatisfactory. Such plantings have been made on 3,400 acres on nine game areas during the past 11 years, at a cost of $50,000. They show little possibility of producing appreciable amounts of deer browse at the present or in the future. Except for experimental purposes, such plantings should be discontinued."

WHAT DO DEER EAT?

Although this may seem a relatively large choice of food, a mature deer requires an average of about five to seven pounds of first class browse daily per 100 weight.

Preferred Choice	Second Choice	Good	Starvation	Poor
1—Alternate Dogwood	1—Mt. maple	11—Red oak	1—Norway Pine	
2—Wintergreen	2—Hard maple	12—Blueberry	2—Balsam	
3—Yew	3—Basswood	13—Labrador tea	3—Alder	
4—White Cedar	4—Sweet fern	14—Leatherwood	4—Raspberry	
5—Hemlock	5—Juneberry	15—Birch	5—Tamarack	
6—Mt. Ash	6—Jack pine	16—Holly	6—White spruce	
7—Sumac	7—White pine	17—Black ash	7—Black spruce	
8—Red dogwood	8—Cherry	18—Hazel		
9—Red maple	9—Willow	19—Aspen		
10—Swamp blk. currant	10—Bur oak	20—High bush cranberry		

Also severe is the property damage suffered by agriculturists as a result of the current deer problem. The shortage of natural foods in the forested areas has forced the deer to invade not only those cultivated areas immediately abutting upon the forest edges, but many others far removed from the true deer range. There, through foraging on farm crops, the animals have caused many thousands of dollars in damage. In a few instances the inroads have been so severe that the properties have had to be abandoned.

The recreation business in Wisconsin is big business and must be kept so. Why then should their interests clash with forest management? For example, resort areas want the deer as one of their wares for the tourist trade — not to shoot, but to see. Wildlife is a universal attraction to tourists. As a general proposition, recreational areas want a very minimum of cutting. However, in an area averse to tree cutting, eventually the timber will grow beyond the reach of the deer, resulting in fewer deer than in areas where logging of the right type is carried on. In these latter areas, they have a sporting value but are not always a commercial attraction. Logging operations during those months when food is most vital to the deer holds forth one of the greatest hopes for a substantial deer herd.

Our forests as they grow beyond the reach of the deer will eventually produce a timber crop, and the slashing which results from the cutting will furnish food for deer. The new growth following cutting, whether natural or planted, will be food for deer. But too many deer will retard, deform or possibly destroy it.

We cannot expect to produce a maximum deer population and a maximum of timber products on the same land at the same time. There is no reason, however, why Wisconsin, and other similar states, cannot have a reasonably large and healthy deer herd; also extensive and profitable forests. Each of these resources is infinitely valuable. To perpetuate both, foresters and game men will

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GHOST CITY OF JAMISON

The story of how this Pennsylvania town came into being, boomed briefly, died quickly and then sank into lethargy is best told by millions of stumps left by woodsmen

By JOHN D. KENDIG

THE boisterous lads who hewed down the tall timber around Jamison, Pennsylvania, back in the eighties wouldn't know the old town now —and probably wouldn't want to. It would be too dead for men who favored a good Saturday night carousal, and perhaps a fight, after a hard week's work.

Quick with an ax and equally quick with their fists and boots, those hardened woodsmen knew Jamison when the big sawmill hummed night and day in turning out 100,000 board feet of lumber every 24 hours. Jamison hummed too. The railroad had come. Three hotels were jammed. And on one occasion a spectator seated on the porch of the Big Onion Hotel witnessed seven different fights within a 30 minute period.

Those were lusty days and Jamison's hearty inhabitants, all generously imbued with the pioneer, exploitative enthusiasm that characterized the era, gave the city a mighty, throbbing pulsebeat. It would last forever, they thought. Timbermen were busy felling trees way up the east branch of Fishing Creek on the ridges adjacent to the valley that runs back to the slopes of the North Mountain country. At one time, back in 1908, the sawmill yard contained nine million board feet of lumber. The tannery was handling 400 hides a day. Log trains arrived daily in Jamison from Emmons and other towns.

Then overnight almost, the city died. Suddenly, there were no more trees to cut. The timbermen had kept reaching out and reaching out within a steadily expanding radius and now they had gone as far as they could go. It was all over. And the lumbermen, the tannery workers, the hotel workers and the merchants packed up and left.

Today, Jamison is a ghost town and a drowsy tranquility has settled over what was once a bustling, thriving city. Most of the old buildings are gone. A few have been transformed into summer homes and hunting camps. A few inhabitants farm a few acres. There is little left now to remind the visitors of the old Jamison.

Old-timers used to recall that in the early 1800's the ridges around what later became Jamison were so heavily covered with forests of great hemlocks that "you had to lie down on your back to see the sun shine."

There was an abundance of deer, bear and other game. The streams were filled with trout. Eagles soared over the rugged ledges that stood out high above the valley floor. Undoubtedly, wildlife brought some of the first people into this country and one of the first structures put up was a large lodge to accommodate hunters. Soon this hunter's paradise was known as New Philadelphia.

After the Civil War, the fine timber of the country attracted the woods industries of the day which were expanding rapidly. Railroads were starting to branch out into the timberlands and the Bloomsburg and Sullivan Road came into the Fishing Creek Valley. The Elk Tanning Company put up a plant a short distance below New Philadelphia sometime around 1888.

With the advent of the tannery, a country long quiet save for the cries of wild creatures and shooting by hunters, learned the sound of the axes as they bit into the sturdy, old trees and the crash of great trees as they fell to the earth. It was a new day for the Fishing Creek Valley.

At first the trees were cut only for the bark to be used in the tanning of leather. The bark had more value than the lumber. Lumber prices were cheap—boards six feet long

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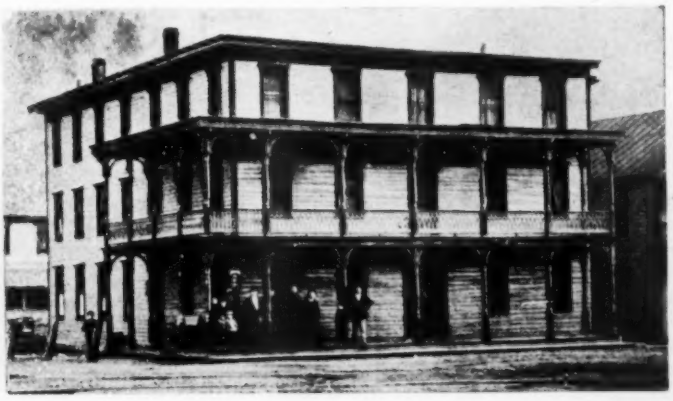
Jamison City's sleepy main street today (left) wouldn't appeal to the hearty lumberjacks who made the town hum back in the eighties—when the City Hotel (right) and others were always full up



UNDER THE SYCAMORES

By WELDON D. WOODSON

Most Americans have a warm spot in their heart for a favorite picnic grove. Family photograph albums, which always seem to bulge with picnic pictures, generally provide a pictorial commentary that closely identifies such groves with pleasant and in some cases memorable events in family life.

Not infrequently there will be the carefully dated photograph of a boy and girl, snapped unawares, as they stroll hand in hand along the quiet brook in the grove, a little apart from the other folks gathered around the bulging hampers and the steaming coffee urn. Then, turning the pages, one is likely to encounter the same couple in the same grove several years later—both busily engaged in taking care of two or more lively youngsters!

More likely than not there will be the picture of Dad in shirt sleeves heaving a horseshoe, taken the day he suddenly mastered the turn-and-a-half toss and wrested the family championship from Uncle Ed. Then there's the picture of harum-scarum young Billy the day he surprised everybody by giving an enthusiastic rendition of "Horatius at the Bridge."

These things are dear to the hearts of American families and they are forever thumbing through their old albums, not without a twinge or two of nostalgia, as they relive once again those wholesome outdoor events under the spreading limbs of the old trees in the picnic grove.

There are thousands of these groves throughout the length and breadth of the United States and hundreds upon hundreds of people have frolicked beneath the old trees, enjoyed delicious picnic dinners, gossiped, listened to band music, sung "Peg o' My Heart" and heard Fourth of July orations.

One of the most celebrated of these groves is Sycamore Grove Park in north Los Angeles, a picnic grounds with a noble heritage which has taken on even more luster in recent years due to the big state picnics that have been held there. This park has come to be cherished by literally tens of thousands of people.

The principal attraction of this friendly grove along the Arroyo Seco, is the wealth of sycamore trees of the species *Platanus racemosa.* Because of them, the area is known as Sycamore Grove, or, to give it its full title, Sycamore Grove Park. This tree, a native species, commonly goes

Pictures of Sycamore Grove have a way of turning up in family albums from Maine to California—for beneath these old trees state societies have been gathering for years

Originally part of the old Rancho San Rafael and later, according to tradition, a bandit hideout, Sycamore Grove has been a popular picnic ground for more than a century

under the name of California sycamore. It is found in the valleys and canyons from the Sacramento Valley southward into Lower California, most generally in poor, rocky soil about stream beds and moist gulches. Sometimes you find it in small, close or scattered open stands mixed with the white alder, large leaved maple and California walnut. Often, however, it is the sole kind of tree in a locality.

The date of the first picnic at Sycamore Grove is debatable but it must have been before the Civil War. Harris Newmark, pioneer citizen of Los Angeles, writes: "It is not clear to me just when the rocky Arroyo Seco began to be popular as a resort, but I remember going there on picnics as early as 1857." Then he goes on to say that in the late sixties people began to refer to it as Sycamore Grove.

Newmark relates that about this time, an individual by the name of Clois F. Henrickson opened an establishment at the grove, including a dancing pavilion, saloon and shooting gallery. "Free lunch and free beer were provided for the first day," he recalls, "and each Sunday thereafter in the summer season an omnibus ran every two hours from Los Angeles to the sycamores." A John Rumph succeeded Henrickson, to be followed by the Los Angeles Turnverein.

Through the years, groups, as well as individuals, would journey out to the sycamores to obtain relaxation. One such was Boyle Workman, a former city councilman whose ancestors—both on the Workman and Boyle side—did much toward sowing the seed which has made Los Angeles great. In his reminiscences, Workman recollects a parade that occurred in 1874 to commemorate our independence. "With this feature of the celebration over," he says, "many of us drove out to Sycamore Grove for a picnic and Fourth of July oratory."

Originally, the grove was but a small part of the old Rancho San Rafael. Tradition has it that prior to the Civil War days, bandits would hide out in the forest of sycamores. With the passage of time, this grant was broken up into different tracts until the acreages where the trees thrive were thought of as a unit in itself. Cognizant of its popular appeal for picnickers, the city bought part of it in 1905. Two years later, more of it was donated. At the present time the park comprises approximately 20 acres.

In 1914, torrential floods raced

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Americans delight in picnics and most families have a favorite picnic grove. Here is the story of Sycamore Grove in Los Angeles, celebrated as a meeting place for peoples of many states

SO THIS IS A TREE FARM

By ELISABETH M. STONE

A tree was simply a tree to this novice until she took to a jeep with an enterprising forester and witnessed at first hand a tree farm and tree farmers at work in the Texas pinelands

AFTER bouncing around the forest in a jeep and having nursed my aching back until it finally stopped creaking, I am convinced that the life of a forester is a rugged existence and tree farming a man-sized job. It took three hours to view only a very small portion of the East Texas tree farm which is operated by the Angelina County Lumber Company. At the end of the uncushioned ride the forester, Arthur F. Lehmann, was as fresh as a bluebonnet. And I? Well, I had seen tree farmers at work.

To get to the woods, I had first to get to Lufkin, Texas, and this was accomplished by taking a wayward bus which stopped at every hollow log on the highway. It was operated by an inquisitive and loquacious driver who allowed that he belonged to the "Do Gooders Church." We weren't ten minutes out of Houston before he had learned all about my impending excursion and was launched on a nostalgic account of how that land had been logged over 50 years ago when he was a barefoot boy.

"Wasn't much left when they got through cutting down the trees," he said. "They didn't leave enough woods for a boy to hunt squirrels. But you wouldn't know that now. The few skinny pines they did leave grew up and their seeds made more pines. Now it's all thick woods again. Got plenty of big trees on it, too."

A short distance out of Houston, the pine forests began to stretch out beyond each side of the wide highway. And all along the road were wornout fields which were being returned to the pines and on them the lusty young trees were covering the tired land, restoring it to use and fertility. Sometimes, where the pines grew close to the highway, there were signs of burns which had destroyed a good stretch of young growth.

"Cigarettes likely caused that fire." The driver pointed to a clump of dejected looking young pines, whose foliage had been seared brown by flames. "Some folks don't ever learn not to pitch smokes out of the window when they're riding through this country. They got ash trays in the cars but the cigarettes go on out the window and the next thing you know the woods are burning."

Four hours out of Houston, the bus waddled into the thriving town of Lufkin and the Angelina Company's young forester met me at the station. We started for the woods, riding in a sleek new Chevrolet. Southwest of Lufkin, about 12 miles, we turned off the concrete ribbon and into a narrow lane lined on both

sides with tall timber. Shortly after that we entered the thick woods and that was when we took to the jeep. No Chevvy could travel any distance in that nearly roadless wilderness. It wasn't long before I began to have a dim idea of what won the recent war. It takes stamina and sticking power to stay with a jeep, particularly when the driver is making a road where none existed before.

We bounded and bounced some distance into the woods before any signs of cutting appeared. Then a few stumps and some marked trees came into view. We were getting close to the men who were marking trees which would soon be harvested and in another few bumps we caught up with them. They were two native Texas woodsmen, trained in the woods and so adept at their job they need only to stand back and peer at a tree to be able to determine its diameter within a fraction of an inch and almost its exact age, regardless of its size and height. The markers were father and son and represented third and fourth generations of Texas woodsmen. The college trained forester often relinquishes a text book theory in favor of such men's practical decisions.

Not being a forester, the stump of a tree was quite simply the stump of a tree to me, until my woods-wise guide taught me to read the story the mute stump had to tell. On one, where the pine had been between 70 and 80 years old, he showed me how the heartwood had become so rotted it could be shredded with a fingernail—if you have no regard for your nails. That tree, he explained, had been left too long. In another 20 years it would probably have been useless as a sawlog. Another stump showed only a small spot of heartwood rot, a spot about the diameter of a lead pencil. The tree felled there had been about 60 years old. On a stump where the tree had been approximately 50, the wood was clean and finely grained and there were no signs of rot or splitting on its surface, which seems to indicate that the shortleaf pine is fully ripe and ready for sawlog harvest at 50.

Often a mature tree will be purposely left because, in Texas woods talk, it is a "good mammy" tree. A woodsman knows this by the clusters of cones which show in the crown of the tree. Such a "mammy" can be responsible for the birth of thousands of baby pines.

At one time this forest had been a pure pine stand but early day logging had so depleted it that scrub oak and low grade hardwood had moved in and taken up squatters' rights in the woods. When the pines began to come back they sometimes had a hard struggle to find growing room among the usurpers. Today, with a high market for even low grade hardwood, the company is finding it possible to make the removal of much of the cheap timber financially practical and they are cutting the hungry hardwoods as

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Native Texas woodsmen ares so adept at their jobs they need only to stand back and look at a tree to determine its diameter—and almost its exact age, regardless of size

MISSOURI DISCOVERS ITS FORESTS

There are two mistaken ideas about the "Show Me" State—one is that it is overflowing with mules, the other that trees are a minor resource. Actually, many states have more mules than Missouri — and its forest potential will stir the imagination

By CHARLES R. ROSS

Missouri has four physical regions—the north glacial plain, the western prairie, the Ozark highlands, and the Mississippi lowlands

Diversity is the keynote of Missouri's economy. All its conditions present variety; among all the states it is the one least susceptible of sectional tagging. It is neither northern nor southern and its relation to the great West was that of a gateway through which poured the greatest migration in history. Since Missouri must be assigned a regional classification let us call it "midwestern," even though some of its lowland towns are farther south than Nashville, Tennessee, and could be set down in deep Louisiana without exciting comment.

Known as the place where everything grows, Missouri usually is included among the first half dozen states in agricultural stature. Her crop and livestock production totaled $1,000,000,000 in 1944. No other state, it is claimed, has such a diversified agriculture, characterized chiefly by general farms producing small quantities of many things, among which corn, grains, hogs, poultry and cattle are conspicuous.

The value of Missouri manufactures is about one and a half times as great as that of its farm products, and this signifies high industrial position. Meat products, minerals and shoes lead a very long list. Yet, despite impressive figures, the economy which supports 3,750,000 people is not altogether sound.

Particularly should it be noted that not all the farmers are even moderately prosperous. The value of farm structures is an index to a bad situation, being barely above that of the admittedly poor southern states, and less than half the Iowa average. Particularly in the southern half of Missouri there are pressing problems of economic adjustment. Forests are concentrated there, and their proper use and development is reckoned a foremost means of improving the rural situation.

Four physical regions are recognized: the north Missouri glacial and loessal plain; the western prairie; Ozark highlands of the southern portion; and the alluvial Mississippi River lowlands of the southeast corner, sometimes called the "boot heel" because of its shape on the map.

The northern and western regions are reasonably uniform as to land and its uses. The soils are generally deep and fertile, and they are intensively farmed. One-third of Missouri never was covered by forests in modern geologic times, and trees have come in upon less than one-fourth of these areas; occurring as small tracts on farms and along streams or in

U. S. Forest Service

Portable sawmills have proven efficient in the Ozark region which seems assured of a sustained demand for wood products due to Missouri's proximity to the tree-scarce prairie states

places where the soil is unfit for agriculture for one reason or another. In the north and west, elm, hickory, red and white oaks, maple, walnut and cottonwood are found.

The Ozark highlands in the southern half of the state comprise one of the most solidly forested areas east of the high Rockies. Ozark soils tend to be stony and of low fertility. Further, authorities declare that 50 percent of this hill land is too steep for cultivation. Settlers have tried over many years to utilize more of the land for farming, because they have found the region an unusually pleasant place in which to live. Yet it remains 62 percent wooded today. White and post oak make up half the total volume of sound trees, followed in importance by red and black oaks, hickories and shortleaf pine. Pine types occupy about five percent of the total forest area, mostly concentrated in the southeast part of the region.

The boot heel of southeastern Missouri has only scattered areas of forest, because its flat alluvial lands have long been under cultivation. These woods, lush southern bottomland that they are, show faster rates of tree growth than other regions in the state. Gum, oak, hickory, pecan and cypress are found here, much of the timber being of high quality.

Lumbering was never as spectacular an industry in Missouri as in other wooded states farther north or in the deep South. Yet there was great activity in the Ozarks 40 to 50 years ago. For a while the world's largest sawmill operated there. The primeval forest yielded a vast quantity of shortleaf pine from the hills, and even greater volumes of excellent hardwood came out of the bottoms.

After the heyday of Ozark lumbering, the yellow pine passed from a dominating position in the stands. Instead of whole townships of pine, only scattered stands now remain. In some areas there are none at all. Markets for second growth oaks which came into prominence after the first logging were not very favorable.

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Missouri forests are well stocked from a numerical standpoint as evidenced by these well-formed young oaks in Carter County

KNOWING YOUR TREES

GINKGO

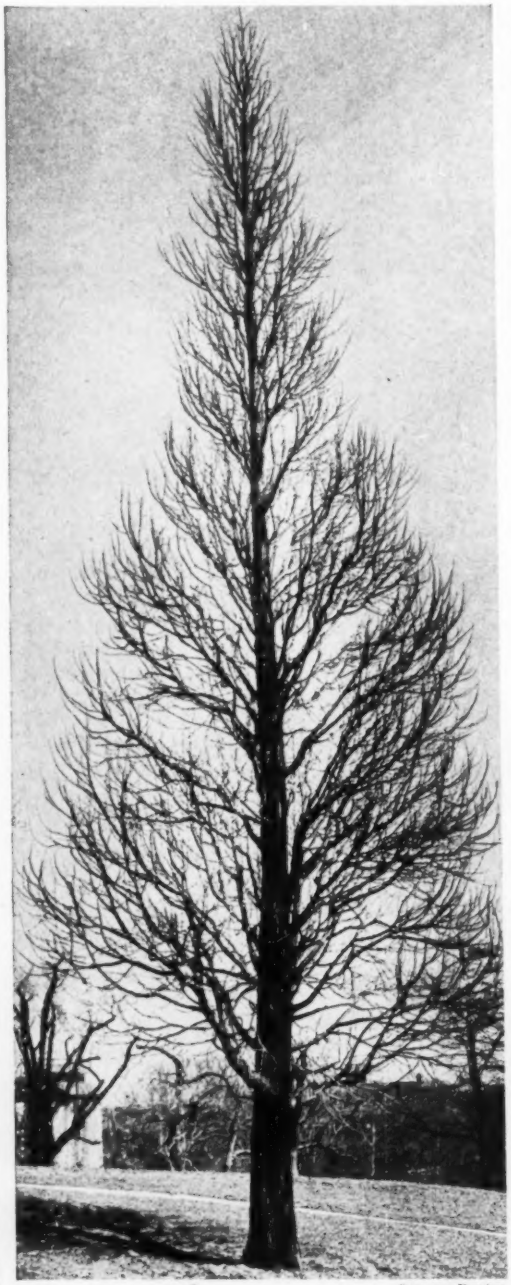
(*Ginkgo biloba* Linnaeus)

By WARREN D. BRUSH

The ginkgo is unique among trees. It is not closely related to any living family or group in the whole vegetable kingdom and is the sole survivor of a family, rich in species, which was distributed over the temperate regions of both the northern and southern hemispheres when the dinosaurs roamed the earth. It has been called a living fossil for it seems to be identical with fossil species which have been described, and presumably was a common tree in the present temperate and circumpolar regions of the whole northern hemisphere. It seems probable that glaciers caused its extinction in North America, Europe and western Siberia, but in the milder climate of the Orient, which the glaciers did not reach, it survived. Even there, however, it no longer exists in a wild state and in Japan and China it is known only as a planted tree.

The fan-shaped leaf is found in no other flowering plant and resembles the leaflet of the maidenhair fern, hence the name "maidenhair tree" by which it is quite commonly known. The manner of fertilization of the female flower is similar to what takes place in the ferns and botanists have called it a missing link between flowering plants and ferns.

At maturity the ginkgo is a stately tree 100 feet or more in height with a cylindrical, slightly tapering trunk sometimes as much as eight feet in diameter. In youth it has a continuous central column, and is sparsely branched with the spire-like or pyramidal habit of cone-bearing trees. As it becomes older its



Devereux Butcher

At maturity, the Ginkgo is a stately tree 100 feet or more in height with a cylindric, slightly tapering trunk

F. W. Besley

In youth it has a continuous central column and is sparsely branched with the spire-like or pyramidal habit of cone-bearing trees

form is more or less conical. The main shaft usually divides and the crown is made up of several large ascending and spreading branches and many horizontal or somewhat drooping branchlets.

The slender-stalked leaves are more or less incised or divided at the broad summit. They have no midrib but numerous branching parallel veins. Usually measuring from two to three inches across, on vigorous young trees and on shoots which develop from the base of the trunks of old trees they are sometimes from six to eight inches broad. Somewhat leathery in texture, they are bright green when young and dull green at maturity. In autumn they turn a clear yellow. Occurring late in the season, defoliation is unusually rapid.

Before the leaves are fully developed in the spring, the ginkgo tree blooms. Its flowers are of two kinds, male and female, and they occur on short shoots of different trees. The pollen-bearing flowers are in arching catkins resembling somewhat those of the oak but stouter and less pendent. The pistillate or fruit-producing flowers, usually in pairs, are borne under small expanded knobs which terminate long stems.

The orange-yellow, plum-like fruit is about an inch in diameter and consists of a thin, outer fleshy layer which covers a pointed oval nut from one-half to three-fourths of an inch long with a smooth, white shell enclosing a soft kernel. On or soon after falling to the ground, the fleshy covering bursts and emits a most offensive odor. When the nuts have been cleaned of the offensive pulp and washed they are pure white, and are known in China as white or silver nuts (ginkgo meaning silver fruit in Chinese). They are sold for food in China and Japan and are eaten at banquets, weddings and social gatherings. The ginkgo is the oldest cultivated nut tree.

The bark is fissured into ridges of irregular shape and on old trees it is deeply furrowed. The winter buds are conical and short-pointed with bright brown scales.

Ginkgo wood is white or yellowish white and there is no distinction between sapwood and heartwood. Light in weight, soft, weak, fine textured and easy to work, the wood is of little value. In China and Japan it is used for chess boards and chess men.

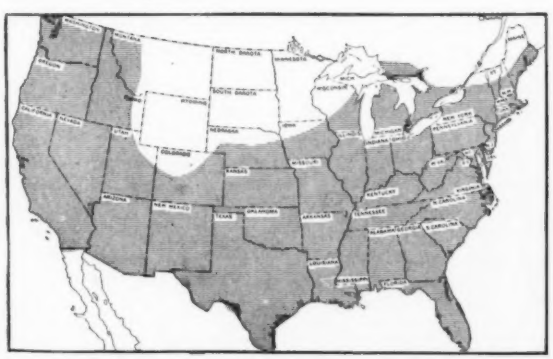
The ginkgo was introduced into Europe in 1730 and into England in 1754, from which country 30 years later it was brought to the United States. It is desirable for planting as an isolated specimen, in groups, or as a street tree, and is not subject to insect or fungus attack. Because of the disagreeable odor of the fallen fruit, the male trees are preferred.

Dr. A. E. Hubbard

The leaves are slender stalked, more or less incised at the broad summit. They have no midrib but numerous branching parallel veins

L. W. Brownell

The plum-like fruit is orange-yellow, about an inch in diameter, and consists of a thin, outer fleshy layer covering an oval nut



Introduced into the United States in the 1780's, the Ginkgo has been planted with fair success in the area shown above

The bark is fissured into ridges of irregular shape and on old trees it is deeply furrowed. Ginkgo wood is white or yellowish

managing your WOODLANDS

A page dedicated to the management of woodlands, large and small — practical suggestions in procedure and technique and in the solution of problems on the ground.

What is your problem? American Forests will assist you in finding an answer. Address queries to The Woodlands Editor.

How Many Acres Are Needed?

—mighty few, says this Oregon farm-forest owner, if you have a good stand of timber and handle it wisely

HOW large must a woodland be before an owner can reasonably expect the practice of good forestry measures to yield profitable returns? This question has been asked innumerable times by persons interested in acquiring forest land or in inaugurating forestry practices on holdings ranging from five to 5,000 acres. There is no unqualified answer. Success depends not only on the size of the area but on the type of timber, the availability of markets and the costs involved in managing the stand.

One Oregon farmer has made forestry pay on just 22 acres, and while his situation cannot be duplicated in many places throughout the country, his story shows what can be done with second-growth material, sound advice and plenty of initiative.

Chris Fisher has a 120-acre farm in Clackamas County, Oregon. On it he raises feed, pastures his milk cows and produces a small seed crop for the market. In addition to the 120 acres of farm land his area embodies 22 acres of woodland. Back in 1941, Chris looked upon that 22 acres as potential crop and pasture land. If he cleared it, he could enlarge his dairy herd, produce more hay and grain. With the extra land he could afford to hire a man to assist him in his farm work.

However, he soon learned that the cost of clearing the land would be just about as great as purchasing land already cleared. Hence the woodland appeared to be a dead loss. At this point in his "paper" farming, Chris called in Walter M. Ferguson who was then farm forester for the Clackamas County area. Ferguson and Fisher took a look at the woods to determine what might be done. Examination disclosed 14 acres of medium stocked 70-year-old Douglasfir with an understory of cedar, hemlock, yew, dogwood and other hardwoods and eight acres stocked with 40-year-old Douglasfir.

Growth rates indicated that Fisher could cut 2,260 cubic feet of wood each year from this area and could keep cutting at that rate indefinitely if he followed good forest management practices. Chris became interested at once. Abandoning all thought of clearing the land for farm use, he leased an additional 20 acres of pasture to help support his growing dairy herd. Then under Ferguson's guidance he began to put his woodland to work.

First he made a thinning in the 40-year-old Douglasfir stand. By removing trees that were competing with his best crop trees he improved this stand and was able to sell peeled poles, car stakes and fuelwood. That was the start of an annual harvest. Each year since then Fisher and his hired man have utilized their slack time cutting fuelwood, posts and pulpwood—from thinnings and occasional old-growth trees.

When Alvin Parker succeeded Ferguson as farm forester, he continued to work with Chris, keeping him posted on current market specifications. As a result, Chris has harvested and marketed or used a wide variety of forest products in the past five years. These include peeled poles, fuelwood (both hardwood and softwood, including limb-

(*Turn to page* 478)

Unable to buy shingles or shakes, Farmer Chris Fisher, (left) started making his own from Douglasfir timber on his own land. Below, part of his lumber "crop" for use on the farm

Whole Timber Crop Utilization

"If we can accept today's markets as indicative of future trends, our experiments leading to whole crop utilization will soon progress from the pilot plant to the new plant and product stage. Basic timber products such as lumber, pulp and plywood will be augmented and perhaps supplanted to a degree by new products from growth now poorly utilized or wasted."

WEYERHAEUSER TIMBER COMPANY
1946 Annual Report

During 1946, two Weyerhaeuser mills produced 4.6 per cent more lumber than in 1945 with 3 per cent less log scale wood usage. In the same period, the company's two pulp mills maintained production at the 1945 level with 4 per cent less logs. A new plant to convert Douglas Fir bark into usable profitable products was put into operation last year. Thus we move toward greater and better usage of our forest crop.

It is estimated that whole timber crop utilization of Weyerhaeuser's potential annual harvest could double the sales value of its usable forest products. This would require use of tops, thinnings, partially rotten wood for which markets are not now available. Obviously, this would require substantial capital investments and tremendous sales effort.

Funds reserved for postwar plant development totaled $20,000,000 at the close of 1946. These funds will contribute substantially toward steadily approaching the objective of WHOLE TIMBER CROP UTILIZATION.

WEYERHAEUSER

WEYERHAEUSER TIMBER CROP FOREST PRODUCTS

MAKING WATER WETTER

New chemical wetting agent proving effective in control of forest fires

FOR many years men have accepted the fact that water is wet and have used it with varying degrees of success in fighting fires without much thought of making improvements on it.

However, with the dawn of the empirical age and the cracking of the atom, chemists looked at water and found it wanting in some respects. It might well be, they admitted, that water could be made wetter and given a greater penetrating quality by changing its basic characteristics.

This was done and the fall of 1946 saw the introduction of a new wetting agent—a wetter brand of water—produced by Arnold, Hoffman & Company, of Providence, Rhode Island, and given the name of "Drench."

"Wet" water is water to which a chemical wetting agent is added to increase its penetrating action. Such an agent increases the saturating action of water by reducing the surface tension to keep it in globular droplets when sprinkled on any surface. For example, put water on a piece of paper from an eye-dropper—the drops retain their spherical form. Add a wetting agent and the drops spread out and soak into the paper. This is the principle on which wetting agents work, the cardinal factor being the penetrating quality of the liquid which permits it to get beneath the surface of a conflagration in a hurry.

Wetting agents were developed originally for the textile industry to make bleaching or dyeing solutions penetrate fabrics thoroughly and evenly. Experts quickly realized that the new product could be a priceless boon in fighting fires, including sawmill and woods fires.

Not long ago a threatening blaze started in a planing mill in Coventry, Rhode Island. The mill was a frame building. The main floor was stacked with lumber and the open-end basement with wood shavings to a height of seven feet. The fire, which had started when a workman was priming a gasoline engine, flashed down through the loose floor planking into the perfect fuel beneath where it was fanned by a brisk breeze. This created a serious situation in a few brief seconds.

Among those answering the fire call was Warden J. R. Hill with 650 gallons of "wet" water in the booster tank of his pumper truck. Warden Hill had two openings made in the floor and inserted his fire nozzle. At the same time he ordered a two-and-a-half inch reserve line connected to the nearest hydrant, 1,200 feet away.

But by the time his men had returned from making the hydrant connection, the fire was out. Later examination showed that the entire pile of shavings was completely drenched and that the water had penetrated two inches into the earth beneath.

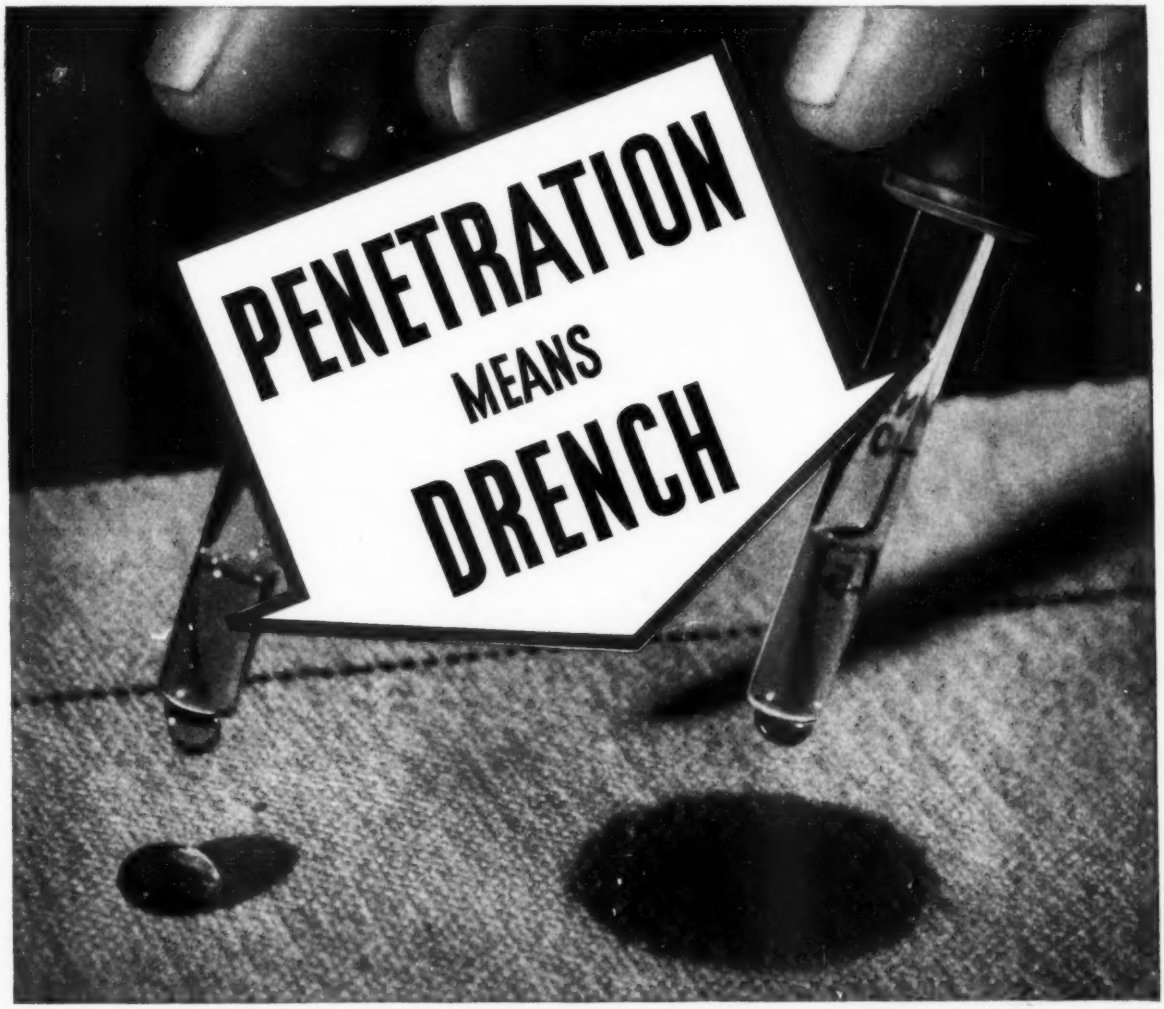
In August, a fire broke out in grass and manzanita brush on the Fort Ord reservation in California, and Chief F. B. W. Ernst and his firemen used five gallons of "Drench" in a tanker containing about 650 gallons of water. Application was made through a one and one-half-inch line with a fog tip under about 50 pounds of pressure.

Chief Ernst reported that "an appreciable amount of time was saved through an apparent action of stretching our volume of water—in other words, it was necessary to use less water to completely cool the hot mold and duff. This can be attributed to the fact that our extinguishing agent was penetrating through this material and into the dirt underneath, without evaporating to an abnormal extent."

The Maryland Department of State Forests and Parks also was quick to recognize the value of this extinguishing agent. Findley Burns, editor of *Old Line Acorn*, wrote in a recent issue that "it not only puts a fire out in quick time, but because of its drenching action eliminates the need for a good portion of the mop-up work."

That this new product is highly effective has been attested by a representative cross-section of foresters and forest owners, as well as by sawmill operators and a number of fire chiefs who have used the product. To date, tests made and the use "Drench" has been put to in actual emergencies, indicate that its chief value to woodsmen has been in reducing the length of mop-up operations by quickly quenching burning stumps and duff; in saving water, a potent factor when used in fighting woods fires where water hauls are long and arduous; and by being the answer to a sawmill operator's prayer in putting out fire in a sawdust pile.

The new "wet" water saved manpower and time in checking this fire in Rhode Island



...and DRENCH MEANS PENETRATION *where you need it most.* Tried and proven under actual forest fire conditions, DRENCH is the wetting agent that will give you complete penetration and saturation of dangerous leaf mold, ground duff and char.

DRENCH gives faster extinguishment of the fire line and eliminates patrolling, rewetting and trenching.

DRENCH is a properly formulated wetting agent, readily soluble in all naturally occurring water supplies over a wide temperature range and does not require special nozzle equipment.

DRENCH saves *time, money* and *man hours* in the complete extinguishment of forest fires. Where penetration really counts, use DRENCH.

DRENCH is the *tried* and *proven* wetting agent.

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Fire Specialties Division

PROVIDENCE, R. I.

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Missouri Discovers Its Forests

(*From page* 459)

Consequently, the forest fell into disrepute as a producer of economic values. Other promising enterprises crowded the horizon, and it was generally believed to be only a matter of waiting for settlers to replace the degraded forests of the southern half of the state with prosperous farmsteads. The official State of Missouri Book reflected this kind of thinking as late as 1932, when it declared: "More than 13 million acres of cutover lands are lying idle in the Ozark region awaiting the tiller's hand." So it is not strange that Missourians paid little heed to their forests.

The old timber dwindled steadily, the logged off lands continued to await settlers. But new clearing scarcely offset abandonment. At last it became apparent there was little chance for Missouri's Ozark forest region ever to be anything else. Yet the impulse for determined rehabilitation efforts still was missing because timber products were too cheap during the 1930's to stir any but forestry enthusiasts. Nevertheless, a new State Conservation Commission was created in 1936 and was directed to start a state forestry program. At the same time the federal government was encouraged to establish national forests in the highland region.

In the next few years several things happened to push Missouri's forests into prominence. It was discovered that timber industry statistics had been greatly understated. For 1941 and earlier years less than 500 sawmills had been reported for the state: actually there had been upwards of 2,000. Output of products was found to be much greater than had been previously believed. Most interesting of all, however, was the rapid increase in prices of timber products. Missourians suddenly learned that they had more timber and mills than they had believed, and the earning power of the industry was far greater than anyone had suspected.

The relative standing of woodlands has now been raised in the whole land-use picture. Missouri hardwoods are being turned into ties, barrels, flooring, handles, furniture, various small wood articles and lumber. A sustained demand seems likely. Being near the tree-scarce Prairie States, Missouri should be able to continue its production of low grade boards as well as special products.

Two other recent happenings helped to boost forestry interest. From study of aerial photos the State Conservation Commission added nearly three million acres to its inventory of forest land acreage, finding that much land which had been regarded as pasture actually was well wooded and potentially productive. At the same time it was found that standing timber is much greater in volume than has been suspected. The Forest Resource Appraisal of The American Forestry Association tallied and sampled and found more timber than was thought to be here.

Estimated forest areas and volumes of sawtimber and cordwood are as follows:

Region	*Land Area*	*Forest Area*	*Net Volume of Timber*	
	Acres	*Acres*	*Sawtimber M bd. ft. (Trees 10" & up)*	*Cordwood Cords (Trees 5" to 9")*
Northern	15,354,880	3,508,187	3,849,269	4,723,958
Western	6,078,720	1,519,568	1,252,448	2,380,165
Boot heel	2,202,240	426,734	1,046,358	1,698,304
Ozark	20,955,520	12,927,962	7,098,506	25,928,177
State	44,591,360	18,382,451	13,246,581	34,730,604

Big Missouri, replete with diverse elements, does not have the wide divergence in timber stands that might be expected upon 18 million wooded acres. The trees are mostly hardwoods (95 percent), and half of them are oaks of one kind or another. Nor do the stands show wide ranges in volume upon each acre. Only a small percentage of the area runs above 3,000 board feet for the average acre. Brushy and often culled over, these stands average about 750 board feet an acre, including trees nine inches and up in diameter at breast height, and having one eight-foot log. In the Ozarks the average is slightly lower than for the state as a whole. Yet the number of wooded acres is so great that the state total assumes real importance.

Missouri forests divide easily into two groups by reason of topography, land use and forest conditions. The north and west regions and the boot heel have farm forests. There are many thousands of them, aggregating almost 5,500,000 acres. The other type of forest is, of course, the big woods of the Ozarks.

The troubles which plague farm forests are not difficult to identify. But they are difficult to overcome, because there are a million people on farms. The woodland is a minor part of the farm unit and the farmer regards it as of little value for itself. There is lack of reproduction in the farm woods by reason of close grazing; they are frequently clogged with malformed, limby and decayed trees, the fruits of long continued cutting of good material and neglect of everything else. Usually the only market for such culls is on the farm itself, but few people will take the care necessary to turn such material to good use; probably few indeed know how to manage their woodlands as they should be managed. To stop overgrazing and introduce better management are the present challenges to farm foresters in Missouri as elsewhere.

Six farm foresters are now attempting to popularize improvement cutting in some 25 counties. This is a new and most promising development; the number should be increased as rapidly as possible. Also, there are extension foresters, county agents and technicians of the Soil Conservation Service demonstrating, teaching and planning in the farm regions. By such means a change may be brought about which will have very great value to the state's agricultural economy.

Fire is not a major problem in north and west Missouri, where only one acre out of four is woodland. Unfortunately it still remains one in the Ozarks. Nearly 40 percent of the woodland area there was found to have been burned over during the preceding five years. The burning appears to have been concentrated in certain "hot spots" as evidenced by the repeated burns in many areas.

Although the stockmen's interest in woods grazing was revealed in the Ozark region, it is fair to report that actual damage appeared less serious than had been expected. There are cattle in the woods, but 80 percent of the forest failed to show appreciable grazing damage. The remainder showed effects in varying degree, due mainly to the cattle having been confined upon small areas.

(*Turn to page* 470)

FOR FOREST FIRE LINES...

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THE SEAMAN

Portability plus is one reason for the Motorized SEAMAN'S popularity in forest fire line construction. Even the largest motorized model (6 feet wide) can be towed at high speed by a pick-up truck, — and at the scene it's ready for towing by any average farm tractor.

Through heavy brush, even ripping and milling and chopping saplings 1½ to 2 inches in diameter, the SEAMAN leaves an open path behind. Forestry experts estimate it does the work of a ten man crew. Investigate the SEAMAN. Write today for complete details.

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Building Forest Fire Lines

When land has been cleared of timber, old buried roots may be a problem, for if seedlings are to be planted the old roots may foul the new stock. Again, if land is cleared for road construction, old roots must be removed. Here again the SEAMAN has a use, for operating with the hood open, it digs the roots and throws them to the surface where they can be easily gathered for removal.

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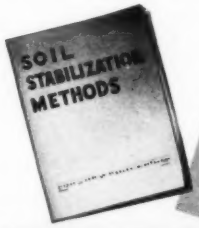
And in the construction of bituminous, soil-cement, or any soil stabilized park roads, parking areas or forest trails, — the SEAMAN is recognized by highway construction experts the country over as the most efficient equipment for in-place mixing operations.



These uses and many others are described in the book, "Soil Stabilization Methods" — compiled by Seaman engineers. Write for your free copy. Ask for Bulletin AF-25.

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Remember, — the SEAMAN is a 4-job machine in forestry work. It prepares a perfect seedbed for nursery stock, — a quality of tillage superior to the combined work of plow, disc and harrow.

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YOUR friends will exclaim over and treasure these charming novel CARDS OF WOOD. Waferthin, flexible, made of Holly, Pine, Cedar, Maple and other exquisitely grained woods, 3¾ in. by 4¾ in., printed with appropriate and attractive designs and messages. Assorted, beautiful cards with envelopes, send $1 for 3. Illustrated folder included—you'll want to reorder before Christmas.

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Bequests to THE AMERICAN FORESTRY ASSOCIATION

There are many members and friends of the Association who find it impractical to contribute to its educational activities during their lifetime. Gifts in the form of a bequest are welcomed. Officers of the Association will gladly consult at any time with those who wish to know more about designating gifts for educational work in forest conservation.

Following is a paragraph suitable for incorporation in wills:

"I hereby give, devise and bequeath _____ to The American Forestry Association, Washington, D. C., a nonprofit District of Columbia corporation, or its successor, or successors, for the purpose of promoting the corporate activities of said Association."

Program of Forestry for the South

A 13-point program designed to bring the 195 million acres of forest lands in the South into maximum production—they now are producing only one-third of their capacity—was announced in September by the Committee on Forestry Policy of the Southern Association of Science and Industry.

Based on studies made by the committee, headed by Clarence F. Korstian of Durham, North Carolina, dean of the Duke School of Forestry, and on the findings of the Forest Resource Appraisal of The American Forestry Association and the Reappraisal Survey of the U. S. Forest Service, the proposals are substantially the same as those incorporated in The American Forestry Association's Program for American Forestry.

In the order of the need for immediate action, "an adequate program of forestry for the southern United States" is set forth as follows:

1. *Adequate forest fire protection*—Sufficient federal, state and private funds for adequate protection of all forest lands, with emphasis on the forest area not now under organized protection, about one-half of the total; intensified education with emphasis on community responsibility and landowner participation in the fire control effort.

2. *Improvement of forest cutting practices*—Concerted, large-scale effort in forest management education, implemented with funds comparable with those spent on fire control; regulatory controls to be considered only if adequate headway in education is not made after a period of years, and then only on a state level.

3. *Education of the American public*—South-wide effort to impress all people with the importance of forests to economic and social welfare, with special attention to grade and high schools and to agricultural colleges; an analysis of education efforts now being conducted by all agencies for the purpose of coordinating, broadening and intensifying the campaign.

4. *Technical assistance to forest owners, operators and industries*—Vigorous expansion of coordinated program of technical advice and consultative assistance to the two million owners of small forest properties who hold two-thirds of the privately owned forest lands in the South; aggressive and persistent campaigns by forest owners, forest industries and trade associations to extend improved forest management practices; advice and consultative assistance by federal, state and industrial agencies to smaller wood using industries.

5. *Control of forest insects and diseases*—Public assistance with adequate funds to aid in prompt control of insect and disease epidemics and to minimize normal losses; proper restrictions on importations to prevent introduction of forest pests; and current provision of surveys, research and education to assure early detection and proper control measures.

6. *Forest planting*—Expansion of tree planting program sufficient to restore at least five million acres of non-restocking and poorly stocked forest lands to productivity within the next 10 years—30 million acres in the South are in need of planting; cooperative program under Clarke-McNary Act, with owners paying for seedlings at approximate cost, should include farm and non-farm woodlands; stock distributed from nurseries should continue to be limited to planting for forest products, wildlife food and cover, watershed protection and other conservation purposes.

7. *Forest research*—Coordinated research program by federal, state and private agencies in developing methods of growing timber as a crop at low cost, in the utilization of waste and of poor quality trees now forming a substantial part of southern forests, and in developing new markets for forest products.

8. *Continuation and intensification of forest survey*—Intensification of southern forest survey on a recurring inventory basis, under the cooperation of appropriate state and federal agencies.

9. *Equitable forest taxation*—To encourage the growing and long-term timber crops, studies should be made and action taken by the southern states to assure to forest owners a sound and stable tax policy and standardized and efficient administration of tax laws.

10. *Forest credit and insurance*—Both public and private lending agencies should make available to all classes of landowners long-term forest credit and insurance facilities for the purchase and intensive management of forest lands and continuous production of timber.

11. *Improvement in professional training of foresters*—To provide forest owners and operators with technical forestry advice and assistance by thoroughly trained foresters, facilities of southern schools of forestry should be strengthened so that better

(*Turn to page* 473)

PROFITS
from SMALL WOODLANDS

Announcing a practical, simply written handbook for the profitable use of forest land.

MANAGING SMALL WOODLANDS

BY

A. KOROLEFF *with the collaboration of* J. A. FITZWATER

Price $1.00

If you own or plan to acquire forest property you should have a copy of MANAGING SMALL WOODLANDS — the guidebook to woodland improvement and harvesting.

Learn how to make your woodland pay cash dividends year after year.

The authors, A. Koroleff, forester for the Canadian Pulp and Paper Association, and J. A. Fitzwater, formerly chief of the division of state forestry, U. S. Forest Service, have spent many years in woodland management work. They are recognized authorities in this field.

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"SOUTHERN GLO" Timber Marking Paint

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State and Federal Forestry Departments and many of the larger timber land owners specify *"Southern Glo"*— Well known foresters like it—tell each other about it and have been ordering "Southern Glo" over and over again.

Low in price and economical to use—Thin gallon for gallon with kerosene for hand spray gun.

Yellow and red are available in quantity. White in limited amounts at present.

USE THE COUPON and order direct from the manufacturer in 5 gallon kits or minimum cartons of four one gallon cans.

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INGERSOLL SHOVELS
Blade Edges Guaranteed SPLIT-PROOF!
Shovels, Spades and Scoops of TEM-CROSS Steel (Interlocking mesh-grain structure) are light, strong, and hold edge unusually well.
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Missouri Discovers Its Forests

(*From page 466*)

In the Ozark region, average cordwood volume was surprisingly high, which means extensive areas have nice stocking, since much other land has somehow acquired a cover of brushy growth and culls. Reproduction in general is thick upon all fair to good sites, except where culls obstruct or fires repeatedly kill it. The individual cull tree is probably the most serious problem of this region. Possibly two and a half cords of sound material stand upon each acre, in cull trees.

Appraisal sampling revealed that 43 percent of the Ozark forest is satisfactorily stocked and needs chiefly protection from fire and other enemies to produce future timber crops in abundance. But 26 percent of the total area is cluttered with cull trees which should be removed. Something like one acre in eight is poor land, which cannot produce good crops until vegetation has improved its fertility; a slightly larger area has suffered severely from recent fires. One acre in 16 bears old growth in need of harvesting. Considering all Missouri's forests, one finds their yield held down by four influences: cull trees taking up room, woods fires, poor cutting practices and overgrazing.

Few places have been more subjected to woods burning than southern Missouri, yet organized protection did not get really started there until 1938. Eight fire protection districts are now operated by the State Conservation Commission, and they protect more than four million acres of forest. The yearly burn has been cut from 33 percent to three percent of the area in this brief period. The two national forests in the region provide excellent protection upon more than two million acres including some private lands within forest boundaries. However, only one-fourth of the private forests which need protection are included in patrol activities.

While woodlands are low in sawtimber, there is no lack of cull trees containing usable cordwood. Forty million cords of sound wood is estimated to be contained in these culls. Then there are 49 million cords of wood in sawlog trees and tops, and 35 million cords in cordwood-size trees.

This situation highlights a problem of serious import, that of using low-grade wood for other products than lumber. It might help materially if some one would devise practicable, easily moved mechanical means of harvesting fuelwood. It is estimated that there are a quarter million potential users of fuelwood on the farms of Missouri, most of them more or less prejudiced against cutting and using wood from their own lands by reason of the work involved. Improved wood burning stoves and furnaces would help too.

The problem of poor forest soils is also important, affecting more than three million acres. These acres will not now grow satisfactory crops of hardwoods. Pines could be grown successfully upon such lands, if they could be started. Thus, actual restocking of poor hardwood lands with pine suggests itself as a promising measure deserving of serious consideration. Public forest agencies might properly show the way in this.

Certain Ozark lands, especially on the smoother western side may find more profitable use under grass. This suggestion may well be left to the decision of events, since the probable area is small and its current tree growing power negligible.

Chiefly because so great an area is concerned, total production of timber in Missouri is very large. It is estimated that 446 million board feet of sawtimber was removed from the woodlands in 1944 (U. S. Forest Service; Census). Two and one-half million cords of smaller material was taken: mostly fuelwood, but including 600 thousand cords of fence and mine posts and 400 thousand cords of other material.

The growth rate of forests in Missouri is not yet known. One earlier estimate of 25 board feet an acre is so low as to be useless. But with forests in such a condition of low average stocking it is undesirable to guess what is currently being added by growth. It is more challenging to state that with proper management the annual sawtimber yield should approach two billion feet.

Ownership of Missouri forests is largely private. Farmers hold 8,839,000 acres, while investors own 7,485,000 acres, and forest industries have 500,000 acres. Public agencies have taken over 1,558,000 acres, 133,000 being now in state forests, and the remainder in national forests. Years ago the idea was widely prevalent that the public must take over about half of Missouri's forest areas, because private management was hopeless. Today the trend is toward

more vigorous private ownership and care, yet considerable purchases are believed essential. Some addition of state ownership is also widely favored.

The scattered ownership poses its own problem of education among so many woodland owners. Possibly the best promise of great accomplishment is to be found in the remarkable progress made during a few years by the State Conservation Commission.

Missouri has been in the process of discovering its forest values. The state is now putting more money into development of forestry in its broadest aspects. For 1944 the budget was $126,000; for 1945 it was $178,000, and today is nearly $400,000. A forest crops law shows that the legislature has awakened to the desirability of encouraging private forest management. This statute provides for low tax assessments contingent upon good forest practices, such as control of grazing and fires.

Probably the slow growth rate of Missouri's Ozark forests is not an unmixed evil. For many years the state has been a center of hardwood crosstie production. Tie men say that the slow growth makes for a soft and even texture in crossties that simply is not to be found elsewhere. Foresters might well try their hand at improving upon nature by obtaining more complete stocking of woodlands, so that the same growth rate might produce far more pieces in a given period.

There are two ideas about Missouri which should be dispelled at once. The first is that the state is full to overflowing with mules. Actually, many states possess more of these useful animals than does Missouri. The other misapprehension applies to the forests, holding that trees are a minor resource of the "Show Me" state. This is far from the truth; the forest output today is considerable and its potential stirs the imagination.

There is a third idea regarding Missouri, and this should be emphasized. Its Ozark region is one of the most charming and restful spots in North America; mild but invigorating climate, scenery that never tires, and a people whose roots are deep in early American tradition. Such clear streams as here abound are found in few places outside story books. The immense recreational possibilities of the Ozark forests suggest a use comparable with timber growing and which, fortunately need in no wise conflict with the practice of forestry.

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POWER SAWS

Three new Mall Power Saws are now available for clearing land, felling, limbing and bucking pulpwood or big timber up to 12 feet in diameter. They are faster . . . lighter in weight . . . and lower in price. Sturdy Gasoline Engine is interchangeable on all three models.

MALL MODEL 7 CHAIN SAW—Designed to handle timber up to 12 feet in diameter, the Mall Model 7 is lighter in weight (24" model weighs only 75 lbs.) . . . more compact in design . . . and easier to handle than any previous model. Available in 18" to 12' cutting capacities.

MALL CIRCULAR SAWS—Mounted on wheels with a 30 or 36 inch circular blade—this new Mall Power Saw cuts brush and trees up to 22" in diameter level with the ground. Over 100 lbs. lighter than any other saw of this type and can be adjusted for notching, bucking, limbing and felling from the operating handle without touching the blade.

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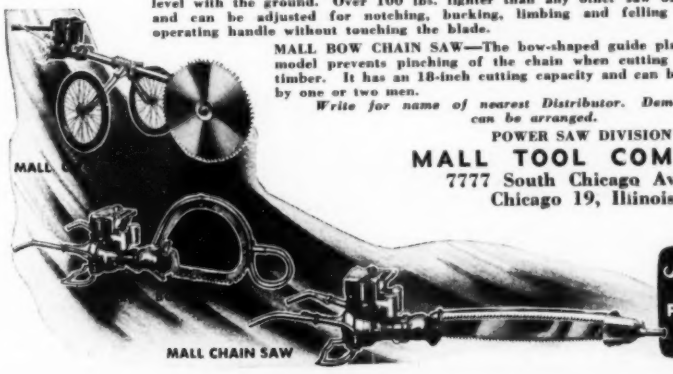

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Program of Forestry for the South

(*From page* 468)

teaching and constructive research projects in forestry may be undertaken.

12. *Sound policy of public ownership of forests*—Public ownership and management by federal, state, county or other governmental units is advocated for areas economically unattractive to private ownership and management because of poor soil or mismanagement; decisions as to which of the public agencies assumes responsibility should be governed by size of area, objectives of management and ability to finance the cost; also some of the better-quality forest lands in the South should be in public ownership for research and demonstration purposes.

13. *Harmonized multiple use of forests*—When in addition to wood products, forest areas offer several resources which may be put to different uses, such as watershed, game, recreation, and other non-timber values, frequently one or more of the non-timber uses can be realized in satisfactory compatibility with forest cropping; whenever conflict occurs, determination must be made which uses are more important and are to be regarded as primary and which secondary and the latter brought into harmony with the primary uses or minimized; forest areas of reasonable size which render higher services to the public through recreation, education and inspiration must be preserved free from any use that will interfere with satisfaction of these needs.

The Committee on Forestry Policy of the Southern Association of Science and Industry was organized in 1946. Members, in addition to Chairman Korstian, are I. F. Eldredge, consulting forester, New Orleans; Charles F. Evans, assistant regional forester, U. S. Forest Service, Atlanta; Charles H. Flory, state forester of South Carolina; I. T. Haig, director, Southeastern Forest Experiment Station, Asheville; Judge Harley Langdale, president, American Turpentine Farmers Association Cooperative, Valdosta, Georgia; Julian F. McGowan, secretary, W. T. Smith Lumber Company, Chapman, Alabama; R. H. White, president, Southern Wood Preserving Company, Atlanta; Warren T. White, Seaboard Air Line Railroad Company, Norfolk, Virginia; and Vertrees Young, executive vice-president, Gaylord Container Corporation, Bogalusa, La.

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Everglades Park Established

ON June 20, Secretary of the Interior Julius A. Krug signed an order establishing 710 square miles in south Florida as the Everglades National Park. The Secretary's action followed his acceptance from Governor F. M. Caldwell of Florida of a check for $2,000,000 appropriated by the state for park land acquisition.

In 1929, President Hoover signed an act authorizing the Secretary of the Interior to investigate and report on the advisability of establishing this park. Then in 1934, President Roosevelt signed an act authorizing establishment of a park of about 2,000 square miles. This act provided that the park "shall be permanently preserved as a wilderness," and no developments are to be undertaken "which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in the area."

Already the federal government owns 461,482 acres of the Gulf of Florida and islands therein, as well as a tract north of the park. Administered by the Fish and Wildlife Service as a wildlife refuge, these tracts, together with additional lands, are expected to be added ultimately, bringing the park to approximately 2,000 square miles as authorized.

The President submitted to Congress a request for a 1948 appropriation of $89,000 to enable the Park Service to set up a ranger staff and to purchase equipment needed for patrol.

Development will be held to a minimum, and the few existing roads will be extended only slightly. Unlike other national parks, the Everglades has a network of natural waterways, particularly in the western part, and some of these will undoubtedly be used to transport visitors by boat to points of interest. To determine where accommodations should be located, and which routes should be used for transportation, will be no small task. So fragile, so easily disturbed is the plant and bird life of the Everglades, that extreme care must be used in exhibiting it.

Public Lands

(*From page* 436)

Colorado State Regional Planning Board and representative of the Governor of Colorado, brought splendid exhibits to stress the importance of watershed values to many communities and to show that overgrazing is destroying these watersheds. He was given only five minutes to testify. Individual cattlemen who cried bitterly about reduction of livestock sometimes were permitted to weep about their "treatment" for periods exceeding half an hour with repetitious monotony.

The seriousness of this situation cannot be overemphasized. It is outrageous that a handful of men, who by no means represent the vast majority of the people of the United States, should, through vested authority, be permitted to quickly undo all of the good that has been accomplished over the past many years. Various writers, who of late have opposed the stockmen, were practically cursed by Chairman Barrett in a manner that certainly was a threat to the freedom of the press. He specifically mentioned Bernard DeVoto of *Harper's Magazine* and Lester Velie of *Collier's Weekly*. The biased chairman should be disqualified. His behavior is a disgrace to our form of government.

A great and swelling protest against the *present* threat to our national property must be raised on every side. The entire matter will probably be brought to a head at the final meeting in Phoenix, Arizona, on November 1.

The obvious unfairness and prejudice shown by the committee at the Grand Junction hearing is *now* creating local indignation as never before. *Now* is the time for conservationists to join the battle openly, using all available ammunition.—*William H. Carr*, Chairman, Arizona Wildlife Federation, Tucson, Arizona.

Ghost City of Jamison

(*From page* 453)

sold at the rate of six dollars a thousand board feet, eight foot lengths at eight dollars, and so on up to pieces 16 feet long, and over, which sold at a slight increase in rate.

Following the tannery came the sawmill, and logging began in earnest. Trunks cut for bark were bucked up into log lengths and often four, or five 16-foot logs would be obtained from one trunk. On steep slopes the cutting had often started at the bottom and worked up the mountainside. Great trees cut near the top would frequently crash and roll much of the way down into the valley and would often arrive stripped of limbs. Sometimes sticks 50 and 70 feet long were broken off at a top diameter of 20 inches. Here, as in many other of the woods operations, there was much thoughtless waste of timber that could have been used only too well later on.

A log slide was built for a distance of about two miles down Blackberry Creek, and cut logs were sent down over it to the mill pond.

Splash dams were constructed up the branches of Fishing Creek. The logs were rolled into the streambed, the gates of the dam above were opened, and the logs would be caught up and go rushing and splashing on down into the mill pond. One day the logs jammed near a waterfall on the west valley stream, and a man by the name of Lewis went out to break the jam. When he got the key log loose the whole body of wildly pitching, ramming logs carried him along out over the falls to his death. The place is still known as Lewis Falls.

The mill was of the double band type with one side for the sawing of hemlock and the other for hardwood. It had a daily capacity of 100 thousand board feet, on the basis of two twelve-hour shifts. Lumber was stacked on the flat valley floor, rigged up carefully along center runways.

Settlements grew quickly around the tannery and sawmill in true boom-town style. Down on the val-

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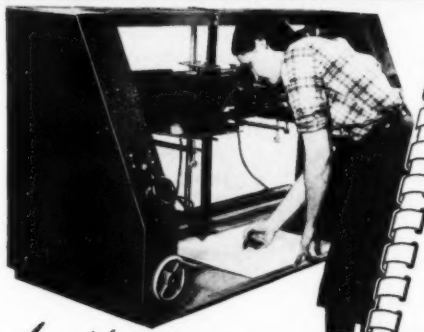

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ley level streets were laid out. There were three hotels, a church, a large school building, stores, a doctor's office, and homes scattered in between. Two suburbs soon developed —one, in the tannery section, known as Germantown, and another near the sawmill, called Hoboken. A large hotel with the name of Proctor Inn, or the Big Onion, was built up on the slopes of Germantown. It had between 40 and 50 rooms. The entire city had a population of around 1,500.

The early days were rough as evidenced by the tales of Burr McHenry who worked and lived through it all and is still there today. "One time," he said, "I sat out on the hotel porch and counted seven fights down one street in less than half an hour. Men would fight at the slightest excuse, just meeting was often enough to start them off, and they sure did each other up."

Later on the town quieted down, but the urge of bullies to test out any new man coming along died out slowly. The newcomer would be watched and sized up for a few days and then would be challenged. The bully would wade in, fists would fly, and sometimes it was the bully himself who got knocked into a tannery vat, or across a board pile. But, after it was over, there would come a handshaking, and it did not seem to matter too much who won, because often these men became the best of friends.

A sort of neighborly social life developed. Nearly every family had a cow and pig and it was customary for the men folks to visit around and see which fellow's stock was growing the best. The women visited each other's homes and baked doughnuts and cakes. At Thanksgiving and Christmas there were holiday dinners, and the men would go out for Christmas trees—often big hemlocks that spread over the entire side of a room—and there would be more visiting around.

There were tales of fires and train wrecks and other calamities, and there was the big blow-down of hemlock, probably in 1896, when a hurricane swept great stretches of timber to the ground. Men of all types and nationalities came to peel the bark and salvage the logs. The outlying mountains were full of crude shacks in which these passing workers lived.

In this manner Jamison City lived and flourished but, before anyone really knew, it came to the end of its active life. The slopes and tops of the mountains were gradually cleared and one day the town awoke to the fact that the timber was gone. There was nothing more within reach to cut. The community had been built up in a rather permanent way with large plants, workers' homes and families.

But one thing had not been considered. That was the management of the timber stands. Everything had been for the present, nothing for the future, and, there had been waste in the woods and mill operations. Jamison City, like hundreds of other timber towns in the east, had lived and gone out. Possibly with careful management and foresight it might still be active today.

The sawmill was the first to fold up in 1911, while the tannery managed to hold out until 1925. It just stopped — there was no special observance of the end. In the following years the big plants were dismantled and around 1927 vast stretches of ruins—steel, wood, and concrete — lay prostrate and forlorn where once there had been active life.

Today, even those reminders are gone and only the tall, impressive, brick chimney of the tannery boiler house remains as a monument to the old Jamison City. By some unwritten law, or custom, this stack is supposed to stand forever, never to be taken down. Recently a small portable mill, that cut a scant five thousand board feet a day, operated here. Now it, too, is gone.

Most of the old buildings are gone. Germantown and Hoboken may boast a few houses, but most of the scattered buildings left are along the main road in the valley. The street where the three hotels were lined up is now a brushy field. The school is gone, the railroad has retreated to Benton, and the old station has been converted into a private residence. Even the church has been changed into a summer home. Some of the other old houses have been fixed up into quite attractive summer places and a number have been turned into hunting camps. And so you might say that the lumbermen have given Jamison City back to the hunters.

The fine large house in which the superintendent of the tannery lived, and which was once rented to a workman for three dollars a month, is now the home of a state game warden, who manages much of the surrounding land for the care and protection of game.

The same rugged mountains still pitch steeply up to the sky and another crop of timber is coming along, but it will be mostly hardwood

this time, for the hemlock in any quantity is gone. Once in a while an artist comes in to paint pictures of the wild beauty of the valley and its mountains.

But only a few old-timers like Frank Mathers, who kept store here in Jamison City's better days, still live on in somewhat of the old style. He sells gas and raises chickens. Burr McHenry and his wife live on by the side of the dusty road. He farms a few lots, plows for his neighbors—and hunts. Now and then an old lumberman, like Zude Oplinger of Shickshinny, comes back to visit and talk about the days when they both worked here together.

Deer

(*From page* 452)

have to work in close harmony. Before that can be realized, forest industries, the resort industries, sportsmen and citizens must recognize the extent of the problem, and the limits which should be placed on deer and on forests. Public opinion must be intelligent in its approach before management can be successful. This state can ill afford to stand by and see the economic structure which has been so painstakingly developed for the northern regions wrecked by a head-on collision between forestry and recreation.

Recommendations for a deer season should be guided by the available winter food deer have to eat and by the forest damage. If food is short, an open season of some kind will save more deer in the long run than closing the season. The balance of the herd will have more to eat, and will start rebuilding. They will increase at least one-third every year, which people seem to forget or ignore.

In closing let me say again — whether it is deer, fish or cattle, the number which the land can sustain depends upon the food supply. We can all be deer experts and can play a game at the same time. Keep the food list handy. Cut it out and take it with you when you go out next time. In a short time you will know more about the welfare of the deer in your favorite spots than anyone else. Make a few notes, then when you go to the sportsmen's meetings you will have some facts which they will have to believe. What a help this could be to the harassed conservation officials. Wisconsin has shown the way; now let us measure up to the name, "Conservationist," and contribute to the sensible management of a very valuable crop.

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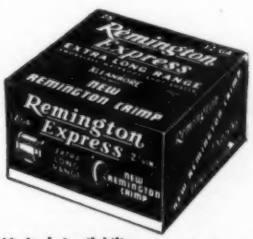

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So This is a Tree Farm

(*From page* 457)

fast as possible. Wherever such cutting had cleared the land, the earth was literally covered with baby pines, some only two or three inches high. All around us other young pine growth was utilizing the space provided by the clearings to reach toward the sun. From baby seedlings to slim saplings, the pines are reclaiming their forest. All of today's harvest is from "old" second growth trees.

As this cutting was intended for sawlog size logs, almost all marked trees were big fellows. However, here and there, a tall spindly pine would wear a splash of white paint. It appears that trees, as well as humans, can be suppressed. The leggy trees were the same age as those near them but they had been starved out by stronger relatives and were to be harvested in order that the more fit be given more growing room. Such trees would be assigned to the pulpwood stack to feed the paper mill which is another part of the company's interests.

The Angelina County Lumber Company, operated by the far-sighted E. L. Kurth, Sr., and very largely owned by the Kurth, Henderson, and Wiener families, is definitely practicing forestry and its logging operations are outstanding examples that such practice pays. The company forests supply raw materials to both sawmills and pulp mill, yet there is no sign of rash or greedy cutting. Forester Lehmann pointed proudly to the record the company holds of removing only 40 percent of the annual growth, of harvesting only mature trees or trees which show signs of over-age or, as in the case of the leggy pines, trees which are suppressed and will never amount to much.

There is little waste in the forest operations of this East Texas company. The average yield of a saw log is 125 board feet and the tops go to the pulp mill to emerge as paper. All trees to be harvested, whether for lumber or pulpwood, are marked twice, once at eye height and once low on the stump. The stump marks discourage the "flatheads," (felling crews to you) from "cheating" by taking out unselected trees. When the forester checking back after a cutting operation finds an unmarked stump he raises what woodsmen call "holy old mackinaw." Which, incidentally, is just what that jeep ride raised with me.

Woodland Management

(*From page* 462)

wood), car stakes, pulpwood, fence posts (yew, treated fir, split cedar), corral poles, barn timbers, pole stubs, balsam pitch, sawlogs, lumber and shakes.

His own fuel requirements amount to from four to six cords which he produces in his woodland. Annually he uses about 100 fence posts and about 2,000 board feet of poles and lumber—again products of his own land. For his lumber, Chris accumulates sawlogs and has a custom mill saw them for him. So far he has produced and used 14,000 board feet of lumber in repairing and constructing farm buildings. His only equipment, other than the custom mill, is a conventional wheel tractor which he also uses on the farm, a drag saw, horses and hand tools, including a 48-inch Swedish bow saw.

A typical example of the way the woodland contributes to the well-being of the farm is illustrated by the way Chris Fisher met the problem of repairing his barn roof. First he tried to purchase shingles. These were priced at $7.50 a square, but there were none for sale. He then tried to buy shakes—current price, $10 to $12 a square—but not available at any price. So, Chris cut down *one* of his big fir trees, 36 inches in diameter, from which he split out 18 squares of 24-inch shakes that will lie 10 inches to the weather. His rate of production is two squares a man day.

The balance sheet on Fisher's operations tells the story of how farm forestry pays. In the past five years, gross receipts from sale of products amounted to $2,386.20. The value of the forest products used on the farm was $2,240, bringing the gross total value of all products harvested up to $4,626.20. For hire of labor, purchase or rental of tools and equipment he spent $1,378.40. He valued his own labor—709 hours—at an additional $587.20, which brought his total expenses up to $1,965.60. This leaves him a net return in five years of $2,660.60 or an average annual profit of $24.19 an acre. And it is profit, since his operations have done no harm to the woods; on the contrary, through thinnings and removal of old and

decadent trees he has improved the composition of his forest and has increased its growth rate. Where old trees have been taken out, there are several small openings which may have to be planted if they do not restock naturally.

Chris Fisher and his 22-acre forest may not be typical of the owners of the 4,000,000 small forest properties in the United States. He had a good stand to begin with and is determined to maintain a good or better forest while he harvests its annual growth. In other areas, it may take a longer time and considerably more acreage to show comparable results; but, as Chris discovered, the best policy for the landowner is to find out what he has and what can be done with it, before making irrevocable decisions.

Brown Named Forest Service Fire Chief

ARTHUR A. BROWN, Kansas-born forester who for the past 25 years has specialized in the study of forest fire problems and in the development of fire fighting plans and organizations in various forested regions of the United States, has been named chief of the division of fire control in the U. S. Forest Service. He succeeds David Godwin who was killed in the crash of a commercial airliner on June 13.

Mr. Brown was transferred from Denver to the Washington office of the Forest Service in 1944. After graduation from the University of Michigan with the degree of Bachelor of Science in forestry in 1922, he was given appointment as a forest assistant in the Forest Service at Sheridan, Montana. In 1926 he was promoted to assistant forest supervisor on the Helena National Forest. Repeatedly assigned to head up control forces fighting a series of big fires in Montana and Idaho forests at that time, he won a reputation as "a good fire boss."

Mr. Brown was assigned in 1930 to Berkeley, California, to test new ideas and methods to meet various types of fire problems. In 1935 he was placed in charge of fire control planning for all the California forests, and served as research coordinator in fire control planning with other federal, state and private agencies.

He was made an assistant to the fire control chief in the Washington office in 1945.

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Under the Sycamores

(*From page* 455)

down the Arroyo Seco and washed away several acres, exposing the roots of the trees. Workmen filled in the devastated area.

The story of the grove of sycamores is not entirely of the past. In fact, its popularity has increased within recent years. Here the state societies — Texas, Indiana, Ohio, Michigan and all of the rest—hold most of their picnics. Sheets of paper are tacked on the trees, each headed by a different county. The visitor finds the county he hails from "back east," writes his name and home town address and lingers in that vicinity, waiting for others to do the same. In that way, old friends meet, and the visitor discovers persons in California he never dreamed had migrated there.

The beginning of the state societies goes back to November 16, 1882. On that date the Pennsylvanians organized the first one in California. It was not until April 24, 1909, that approximately 100 men—representatives of sixteen states—met in a basement and formed The Federation of State Societies. On January 10, 1913, the Federation was incorporated. The chairman of the organization meeting and first president was Judge Waldo M. York, familiarly called "The Man from Maine."

To C. H. Parsons goes the honor of being the "Father of the State Societies." He served as secretary from 1909 to 1943. During this latter year, at the age of 87, he died while working over time at night on the badges for a Wyoming picnic to be held at the grove. His widow succeeded him as secretary and carries on the work magnificently. While Parsons was from Iowa, Mrs. Parsons was from Massachusetts. Parsons, so the story goes, was born in two counties, Clinton and Scott. The dividing line ran through his father's farm. At the Iowa picnics in order to keep peace among the former residents of both, he good naturedly would sign his name under each.

Besides his contribution as secretary and founder of The Federation of State Societies, Parsons is noted for having devised an ingenious diagram for after-dinner and similar type of speakers. It consists of 48 stars, representing each of the states, with the date, and arranged in the order of their admission into the Union. The diagram provides a thumb-nail sketch of the history of our country at a glance.

The Iowa picnics have always been best attended and most heralded. Indeed, Sycamore Grove Park is sometimes referred to as "Iowa Commons." During the early days, the Iowa contingent had as one of its speakers Charles Warren Fairbanks, vice-president of the United States under Theodore Roosevelt. Ex-President Herbert Hoover, a native of Iowa, has addressed the Iowa Society on two occasions.

Among the slogans that Mrs. Parsons uses on the invitations to attend the state picnic is: "Meet a friend and find a friend." One may also well say, few settings can equal the grove of beautiful sycamores for renewing old friendships and making new ones.

AUTHORS

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If you can catch a leprechaun...

A leprechaun, according to Irish legend, **is a dwarf** who keeps a pot of gold hidden away.

If you can catch a leprechaun, your troubles are over.

Because he keeps his gold just for ransom money. If you catch him, he'll quickly tell you where his gold is, so you let him go.

The best place to look for a leprechaun is in the woods. They're green, and only about nine inches tall, so you'll have to—

Or maybe you don't believe in leprechauns.

Maybe it would be more practical to just keep working for your money. But you can learn one good lesson from these little fellows. A small pot of gold put to one side is a great help when trouble catches *you*.

And there's a much faster and easier way to get your pot of gold than by catching leprechauns. You can buy U. S. Savings Bonds through an *automatic* purchase plan.

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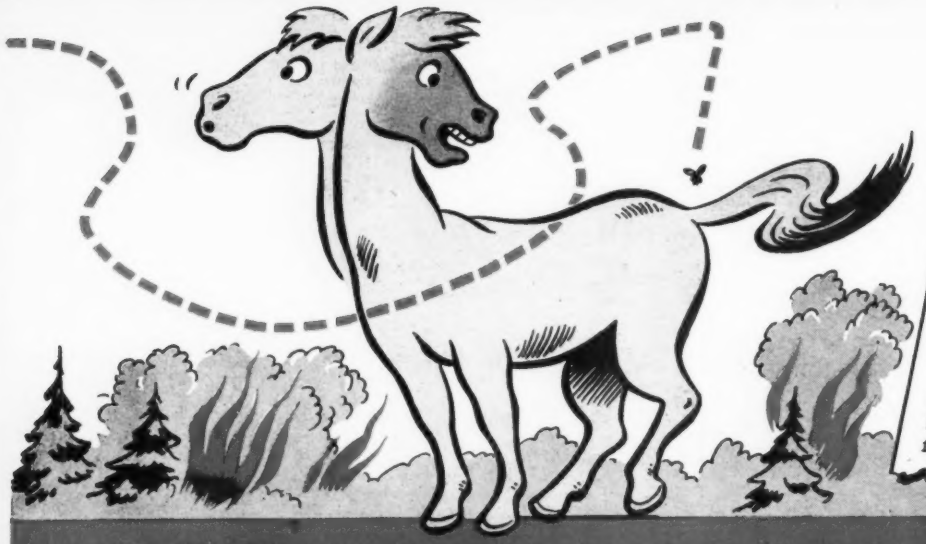

Fly Lights, Gets a Switch, Timber Burns

YREKA, Cal., Aug. 21—(U.P.)—A fly started a chain reaction that destroyed 55 acres of virgin timber, U. S. Forestry officials said today.

The fly made a six-point landing on the horse. The horse switched its tail. It swept away the fly and in so doing touched a "hot wire caused by a broken insulator."

The horse was electrocuted. Its mane and tail caught fire. The flames spread to the timber. The fly presumably got away.

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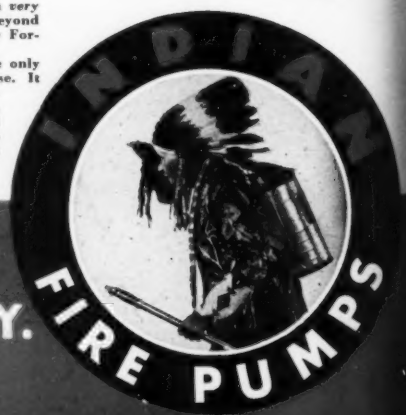

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